Dr. Tord Riemann, ZFITTER spokesperson
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2011-12-23 13:21, per Email to:
Prof. Siggi Bethke
Editor-in-Chief of European Physical Journal C (EPJC)
CC:
12 ZFITTER authors
Elsevier, Computer Physics Communications

Concern:
H. Flächer et al., article published in EPJ C60 (2009) 543

Dear Siggi Bethke,

these days I sent an introductory text to Dr. Caron and to you as publisher and main editor of EPJC,
./mail/letter-to-springer-publisher-2011-12-16.pdf
in partial answering his request:

Subject: EPJ C: ZFitter/GFitter case
./caron-email-to-riemann-2011-11-02-18:26.pdf

This letter expresses my opinions on the legal situation.
After an email exchange with Dr. Caron dated 25 Nov 2011 I consulted the Springer-Verlag webpages and understood a bit better the algorithm to be followed when studying the Gfitter problem.

The present document and the appended or hyperlinked files, taken together, represent my second submission of complaint on misconduct by the Gfitter authors.
The central documents are this one, and the publicly available webpages, which rely on publicly available information, and the list of Fortran identities which are copy-pasted:
letter-to-springer-editor-2011-12-23.pdf [this text]
./mail/gfitter-uses-175-functions-of-zfitter.txt [status 10 May 2011]
http://zfitter.com/zfitter-code-in-gfitter.html [created 03 Aug 2011]
http://zfitter.com/gfitter-gsm-patches.html [created 28 Oct 2011]
http://zfitter.com/gfitter-publications.html [created 10 August 2011]
http://zfitter.com/zfitter-text-in-gfitter-publications.html [created 24 Oct 2011]
Their hyperlinks serve also as bridge to material of relevance.

Please respect the appropriate privacy of documents when studying the case.

In the hope that Springer will clarify in an efficient and appropriate manner the case around the article EPJ C60 (2009) 543, I retain with best regards,

Tord Riemann for ZFITTER

Contents

1 Preface

I refer explicitly to the following publicly available Springer and COPE documents; the first one is kind of a reference for actions in cases of misconduct of authors:

- The Springer pdf file:
  http://www.springer.com/cda/content/document/cda_downloaddocument/Policy_on_Publishing_Integrity2010.pdf?SGWID=0-0-45-784498-0Springer Defines New Policy on Publishing Integrity
- "Springer Policy on Publishing Integrity, Guidelines for Journal Editors", Springer Webpage:
  http://www.springer.com/authors/journal+authors?SGWID=0-154202-12-601001-0
- "Publishing Integrity, Plagiarism, Piracy", Springer Webpage:
  http://www.springer.com/authors/journal+authors/resources?SGWID=0-1723213-12-808304-0
- "Publication ethics", Springer Webpage:
  http://www.springer.com/authors/journal+authors/journal+authors+academy?SGWID=0-1726414-12-837825-0
- "Promoting integrity in research publication", COPE Webpage:
  http://publicationethics.org/http://publicationethics.org/

Let us follow as close as possible the advice given there. Let me, please, remind you that three of the editors are not as independent in their approach to the Gfitter case as is expected by Springer [see Springer instructions, "7 steps"]. You know the names, and I assume the case will be treated properly.

In appendix C we will partly fulfil the demands of the Publisher of Springer-Verlag dated 2 Nov 2011.
We consider the demands to do so as a burden, well qualified to make a complaint nearly impossible; this was already expressed and commented in the letter mentioned above.
Presumably, their formulation rested on a misunderstanding.

The hyperlinks in this document are activated in the electronic version. The documents found by the hyperlinks are essential parts of the documentation. The original internet links are usually given, but in duplication there are local copies of many of the documents available here and also hyperlinked. If a document is not accessible as needed, please let me know this.

2 Three introductory remarks

Before we come to a closer presentation of complaints, I would like to make three general remarks. They explain why the complaint became necessary at this stage of more nonpublic and less public discussions between two international collaborations of scientists.

2.1 Gfitter does not acknowledge and regret copy-paste and/or misconduct

The authors of the article EPJ C60 (2009) 543 never acknowledged to have violated any rights of the ZFITTER authors and/or that they performed a hidden copy-paste in the sense of plagiarism.
They have been asked to do so on several occasions, and they made several statements on that. I like to mention:

- Question in email by T. Riemann to Gfitter on 7 March 2011:
  ... From all eight scientists on the gfitter author list I expect within the next 24 hours a statement: Yes, I agree that there is a copyright/license problem with gfitter/zfitter.
  ... It is also possible to explain to me that your interests are represented by another one of your group.
  The answer by Prof. J. Haller on 8 March 2011 was friendly but he did not acknowledge or regret the misconduct by Gfitter.

- At a telephone conference [J. Mnich [Editor of EPJC and Director for Particle Physics at DESY], U. Gensch, J. Haller, K. Moenig, T. Riemann] on 14 March 2011:
  Gfitter did neither acknowledge rights of ZFITTER with their code nor a violation of rights in general. They even did not acknowlegde the hidden copy-paste as a matter of fact.

  Although Gfitter did not admit copy-paste of ZFITTER, it was, at the same time, emphasized at that meeting by the DESY director for particle physics that DESY allows the Gfitter team to use ZFITTER completely in the manner they like to do. DESY assumes to have the exclusive legal rights of ZFITTER, and to have in addition the right to use them arbitrarily. According to a case study of the legal department of DESY. This was confirmed in Nov. 2011 by that department. ZFITTER did not [and does not] agree on that, but details of using the property rights [vermögensrechtliche Nutzungsrechte] of a software like ZFITTER are complicated and cannot be resolved for this case here.

  Addendum:
  At a meeting of J. Mnich [Editor of EPJC and Director for High energy physics at DESY] , C. Stegmann, T. Riemann on 14 Dec 2011, J. Mnich made the statement that he did not offer the use of legal rights on ZFITTER to Gfitter. He said on 14 March 2011 [as did also J. Haller in that context]: "Ja, so kann man das machen", but does not remember now.

  The facts are mentioned to make plausible that J. Mnich appears to us to be an Editor who is not sufficiently neutral in the case.

- The statements by Gfitter in a text of 13 April 2011 explain in more detail their understanding of the situation, so it might be useful to refer to them.[1]
  `./positions-moenig-et-al-april-2011-p1.pdf` and
  `./positions-moenig-et-al-april-2011-p2_3.pdf`
  The authors are M. Goebel, J. Haller, A. Hoecker, K. Moenig and the opinions are, to our knowledge, actual.
  They acknowledge, on page 2, more or less explicitly the copy-paste of software [not of text pieces] but consider this as justified and legal and of minor relevance.
  I leave the document uncommented here, but it is important to notice that not all the statements/opinions in this document are fully correct.

- Meeting in Zeuthen on 11 May 2011 of ZFITTER [S. Riemann, T. Riemann] and Gfitter [M. Goebel, A. Hoecker, K. Moenig] under moderation by DESY [T. Naumann, G. Weiglein, S. Moch].
  Gfitter did neither acknowledge rights of ZFITTER with their code nor a violation of rights in general. They even did not acknowlegde the hidden copy-paste as a matter of fact; see the protocol for that; it may be made available on demand.

[1] Please respect here and at many similar instances the appropriate privacy of documents reproduced.

- A complete summary by ZFITTER of the situation, with expectations of ZFITTER to Gfitter, dated 28 Oct 2011:
  `./email-zfitter-to-gfitter-2011-10-28.pdf`
  No answer.

  Addendum:
  The Zeuthen moderation on 11 May 2011 was not related to the ombuds investigation at DESY, which was final in April. The report is not known to ZFITTER and so we do not argue about that.
  Prof. Naumann served on 11 May 2011 as a person of trust of the DESY GD Prof. H. Dosch, not as a ombudsman. It was not his responsibility to define the contents of the moderation or to judge the outcome. In fact he had to claim finally, at the end of July, that the moderation process failed, although intermediate results were prepared. He acknowledges also that his final report is shared by G. Weiglein [person of trust of Gfitter, Editor of EPJC and Leading Sceintist at DESY, Hamburg], but is not shared by ZFITTER and S. Moch [person of trust of ZFITTER].[2]
  Other information about the moderation process is being distributed, but it does not fit with the facts.

- A late email by ZFITTER to Gfitter authors of the article EPJ C60 (2009) 543 with a request of respecting rights of ZFITTER with their codes and texts and to acknowledge by Gfitter violations of rights in general was on 17 Nov 2011 [the mail contains due to a typo a wrong reference]:
  `./email-riemann-to-gfitter-2011-11-17.pdf`
  No answer.

Addendum:
It was only in December 2011 that we realized an extensive list of ZFITTER Fortran lines "integrated" into Gfitter in the package Gfitter/gsm_21jul2011.tgz. The files Gfitter/gsm.*.cxx are created 12 May 2011 and contain comments on that. The package was made known at the end of July.
The files prove that the complete Gfitter/gsm team was aware of a substantial copy-paste problem at the Zeuthen meeting, but they did not make it public to us or to the moderators, or to anybody else at that time, as far as we know.

Indeed, with the unix command `less gsm_21jul2011.tgz` we see:

```
drwxr-xr-x andreashoecker/staff 0 2011-07-21 12:46 gsm/
drwxr-xr-x andreashoecker/staff 0 2011-07-21 12:46 gsm/.svn/
-rwxr-xr-x andreashoecker/staff 1762 2011-05-12 20:37 gsm/A0bFB.cxx
-rwxr-xr-x andreashoecker/staff 1551 2011-05-12 20:37 gsm/A0bFB.h
-rwxr-xr-x andreashoecker/staff 1736 2011-05-12 20:37 gsm/A0cFB.cxx
-rwxr-xr-x andreashoecker/staff 1563 2011-05-12 20:37 gsm/A0cFB.h
-rwxr-xr-x andreashoecker/staff 1615 2011-05-12 20:37 gsm/A0lepFB.cxx
-rwxr-xr-x andreashoecker/staff 1560 2011-05-12 20:37 gsm/A0lepFB.h
-rwxr-xr-x andreashoecker/staff 1601 2011-05-12 20:37 gsm/Ab.cxx
-rwxr-xr-x andreashoecker/staff 1532 2011-05-12 20:37 gsm/Ab.h
-rwxr-xr-x andreashoecker/staff 1595 2011-05-12 20:37 gsm/Ac.cxx
-rwxr-xr-x andreashoecker/staff 1551 2011-05-12 20:37 gsm/Ac.h
-rwxr-xr-x andreashoecker/staff 1592 2011-05-12 20:37 gsm/Alep.cxx
-rwxr-xr-x andreashoecker/staff 1569 2011-05-12 20:37 gsm/Alep.h
-rwxr-xr-x andreashoecker/staff 2577 2011-05-12 20:37 gsm/AlphaQCDAtQ.cxx
-rwxr-xr-x andreashoecker/staff 2084 2011-05-12 20:37 gsm/AlphaQCDAtQ.h

-rw-r--r-- andreashoecker/staff 1141 2011-07-21 12:46 gsm/AUTHORS
  ...
```

[2] Details were refreshed by T. Naumann and T. Riemann on 15 Dec 2011.

Addendum:
At a meeting of J. Mnich [Editor of EPJC and Director for High energy physics at DESY], C. Stegmann, T. Riemann on 14 Dec 2011, J. Mnich made the statement that he was informed by Gfitter on the copy-paste and that they regretted this to him. He added that he finds the action not tolerable.

Unfortunately, seemingly he decided to make his knowledge not known to ZFITTER or to the public, byt instead he tries until today to support Gfitter in a non-appropriate manner.

The facts are mentioned to make plausible that J. Mnich appears to us to be an Editor who is not sufficiently neutral in the case.

2.2 The Standard Model software of Gfitter is basically due to ZFITTER

The scientific contents of the article under discussion relies heavily on the Standard Model Library of Gfitter, contained in Gfitter/gsm.
This library rests essentially on ZFITTER, and its careful description in two Appendices of the article EPJ C60 (2009) 543 does so.

There exists no doubt among the experts [theorists working on quantum corrections in the electroweak theory and in QCD] that Gfitter authors, all of them being experimentalists working in the ATLAS collaboration, would never have been able to program and describe this piece of scientific work by themselves, i.e. without using intellectual property of ZFITTER.
In a meeting on 14 Dec 2011 also the DESY DIR for Particle Physics Prof. J. Mnich, a strong supporter of Gfitter, agreed on that.

Several of our collegues hinted to that since 2009, and by closer investigation it becomes evident. This is said also by the authors of Gfitter/gsm in April 2011, see
`./positions-moenig-et-al-april-2011-p2_3.pdf`

The statement is, to say it precisely, that they did not only copy-paste all this in order to save time and effort. They did this because otherwise they would not have been able to establish the Gfitter project and to write the article EPJ C60 (2009) 543. Alternatively, they were enforced to ask ZFITTER people to join their project, and this they did not want to do.
For the latter, see e.g.
`./mail/moenig-05-18-2009-16.38.pdf`

2.3 The article EPJ C60 (2009) 543 among the Gfitter publications

There are more than 35 publications on the Gfitter project where they describe or use Gfitter software. As mentioned, they are reproduced at http://zfitter.com/gfitter-publications.html. In no one case the immediate "integration" of ZFITTER software is mentioned.

Since September 2011, the gfitter group replaces the use of their Gfitter/gsm by a numerical grid. The grid has to be prepared, and this is done using an approach developed by a Japanese group. The necessary accuracy, or at least a reliable control of the accuracy, again needs running ZFITTER.
The use of ZFITTER, in this case by linking, was again intentionally not quoted. In the slides of a talk by Dr. Baak with a first application of that grid on 1 Sep 2011 this may be seen. We reproduce the original slides, downloaded on 1 Sep 2011 [the day of the talk] here:
`./aux-paper/01Sep2011-schott--ILHC_Gfitter_2011.pdf`

It happened only after an involvement of collegues, that a citation note was afterwards included in the archived slides, see: Matthias Schott, "Results from GFitter", talk at "Implications of LHC results for TeV-scale physics", 1 Sep 2011,
`https://indico.cern.ch/conferenceDisplay.py?confId=141983`
`http://zfitter.com/gfitter-publications.html`, Sample 45.
Slide 2 of the talk in the original and the "adapted" versions are reproduced here:
`/.page-2-01Sep2011-schott--ILHC_Gfitter_2011.pdf`
`/.page-2-19Dec2011-schott--ILHC_Gfitter_2011.pdf`

After several months of discussion about proper citations, the habit of Gfitter in this affair appears strange: They actively try to escape needs to quote ZFITTER.

We draw the attention of the editor to these observations in order explain the importance of a careful judgement of the article published in EPJ C60 (2009) 543, which is considered to be absolutely central for the Gfitter project's presentation.

3 Overview of the 4 complaints

3.1 The complainant

The complainant in the Gfitter case is one person:
Dr. Tord Riemann
I am using private address, email, webpage because my employer DESY suggests this for the Gfitter case.[3]
I am formally the only complainant, although the ZFITTER group as a whole supports a correct clarification of the Gfitter case.
I have informal procurations since March to April 2011. The long-term authors of ZFITTER refreshed the procurations [see also appendix C.3]:
`./procuration-from-jinr-2011-11-01.pdf`
`./procuration-from-Akhundov-2011-11-08.pdf`
`./procuration-from-SabineRiemann-2011-11-27.pdf`
The main long-term authors and the present ZFITTER support group are contained in the CC of this email, and if any of them finds my presentation not as correct as needed, he/she will complain. We have this arranged.

I am not acting anonymously, although this is usually recommended in such situations, because I consider an open dialogue as necessary from an ethical point of view.
In fact, I have to admit that this decision lead to inconveniences which I heavily underestimated before. These experiences are one reason to act as the only complainant.
I am 60 years old and cannot expect to much of a scientific carrier in future. This was some time ago, due to another publication problem, nicely expressed by K. Mönig with the words: "Reg Dich nicht auf, aus Dir wird sowieso nichts mehr!"; in English by google translator: "Do not get excited, nothing is more out of you anyway.

[3] In fact the situation is complicated for me. Prof. J. Mnich, Director for High Energy Physics at DESY and Editor of EPJC, forbids since 9 March 2011 [by email] until the present day the distribution of critical information on Gfitter by [private or DESY] email. I followed the advice strictly until 11 May 2011. J. Mnich mentioned [at the meeting on 14 Dec 2011] in this respect as an intolerable event an email I sent to the CERN GD at the begin of September 2011: This is against his advice. The facts are mentioned to make plausible that J. Mnich appears to us to be an Editor who is not sufficiently neutral in the case.

Finally I decided, for ethical reasons, to take the risk of an open affair.

3.2 The complaint in short: 4 violations of Publishing Integrity

In my earlier correspondence to EPJC,
`./email-an-EPJC-main-editor-2011-09-23.pdf`
`./Gfitter-EPJC60-case.tgz`
`./mail/riemann-email-to-bethke-2011-10-11-14:18.pdf`
I brought to the attention of Springer-Verlag, and do so again today, that the authors of EPJ C60 (2009) 543 presented in three cases the work of ZFITTER authors "as if that work were their own and without proper acknowledgement."
This is called by Springer plagiarism, one kind of misconduct deserving actions by the journal editor and by the publisher according to the rules, which have been made public at the webpages of Springer-Verlag.
Now, additionally, we also complain about "Unacknowledged authorship" in two cases.
Here are the short statements:

- Software of ZFITTER has been copied-pasted-integrated into Gfitter/gsm and so used as a basic ingredient of the article. No referencing, so it is a case of "Plagiarism" in Springer's terminology.
- The integration of ZFITTER software into Gfitter/gsm made, efficiently, these ZFITTER authors also to co-authors of Gfitter/gsm according to German Urheberrechtsgesetz. Because they are not on the authors list of the article EPJ C60 (2009) 543, this is a case of "Unacknowledged authorship" in Springer's terminology.
- The Appendices A.3 and A.4 [which both are crucial for the entire article] have been created from two latex text sources written by ZFITTER authors. No referencing, so it is a case of "Plagiarism" in Springer's terminology.
- The integration of the two latex text sources written by ZFITTER authors made, efficiently, these ZFITTER authors also to co-authors of the article EPJ C60 (2009) 543 according to German Urheberrechtsgesetz. Because they are not on the authors list of the article EPJ C60 (2009) 543, this is a case of "Unacknowledged authorship" in Springer's terminology.

The corresponding author, Dr. A. Hoecker, CERN, was fully aware of all these facts.

3.2.1 Collection of information on Gfitter's use of ZFITTER

The main sources of information on Gfitter's use of ZFITTER are linked for a proof that our complaints are justified:
`mail/gfitter-uses-175-functions-of-zfitter.txt`
`http://zfitter.com/zfitter-code-in-gfitter.html` - Samples of the 'integration' of ZFITTER software in Gfitter/GSM software
`http://zfitter.com/gfitter-gsm-patches.html` - Patches of misprints arising from the 'integrations'
`http://zfitter.com/gfitter-publications.html` - Informations on publications of Gfitter where the use of ZFITTER software is not quoted
`http://zfitter.com/zfitter-text-in-gfitter-publications.html` - Samples of [latex source] text, found in the main Gfitter publication and also in a diploma thesis, taken from latex source files

written by ZFITTER authors
The webpages are being called from
http://zfitter.com/

For convenience, the webpages are also saved locally:
mail/gfitter-uses-175-functions-of-zfitter.txt
./zfitter-code-in-gfitter.html
./gfitter-gsm-patches.html
./gfitter-publications.html
./zfitter-text-in-gfitter-publications.html
./zfitter.com.html

3.3 The complainant's expectations

We expect that Editor and Publisher act strictly along the lines defined by Springer for such cases, see the document "Springer Policy on Publishing Integrity – Guidelines for Journal Editors", in the web found under:
http://www.springer.com/cda/content/document/cda_downloaddocument/Policy_on_Publishing_Integrity2010.pdf?SGWID=0-0-45-784498-0

We are aware of the complicated situation which might arise for EPJC in case a misconduct will be declared. Because, in that case it is foreseen, among other measures:

"Retraction of the article"

and

"The corresponding author is banned in participating in any of the journal's publications for an initial period of 5 years."

The corresponding author, Dr. A. Hoecker, is a responsible member of the ATLAS collaboration. Another author of the article EPJ C60 (2009) 543, Dr. K. Moenig, DESY, Zeuthen location, presently at CERN, is the Chair of the "ATLAS Publication Committee" [Oct 2011]. In view of the fact that all the authors of the article EPJ C60 (2009) 543 deny strictly any misconduct, the reactions of the ATLAS collaboration are not evident.

4 The first complaint: The software package Gfitter/gsm contains scientific material, which is "integrated" by unauthorized and hidden copy-paste from ZFITTER

The file
./mail/gfitter-uses-175-functions-of-zfitter.txt
contains a list of our 175 findings on copy-paste of Fortran identities, and the webpage
http://zfitter.com/zfitter-code-in-gfitter.html
contains instructive selected examples.

These two files contain the most essential information of this section.

See also the file
`./12may2011-gfitter-copy-paste-list-11dec2011.txt`
which we extracted by the linux grep command from the Gfitter/gsm package dated in July 2011 [parts of it date 12 May 2011]:
`./gsm_21jul2011.tgz`

At the webpage zfitter-code-in-gfitter.html it is proven that Gfitter made hidden copy-paste of ZFITTER software into Gfitter/gsm.
For convenience, we hold local copies of this file and of most files linked from there:
`./zfitter-code-in-gfitter.html`
`./aux-codes/bcqcdl5_14.f`
`./aux-codes/m2tcor5_11.f`
`./aux-codes/dizet6_42.f`
`./aux-codes/GSMMath.cxx`
`./aux-codes/Vertex.cxx`
`./aux-codes/ZFitterBosonPart.cxx`
`./aux-codes/WZFitter.cxx`
`./aux-codes/RadiatorFunctions.cxx`
`./aux-codes/EW2Loop.cxx`
`./aux-codes/ZFitterFermionPart.cxx`
`./aux-codes/EW2Loop.cxx`
`./aux-codes/ZFitterQCDCorrections.cxx`
`./aux-codes/Z0ZFitter.cxx`
`./aux-codes/Vertex-detailed.pdf`
`./aux-codes/ZFitterFermionPart-detailed.pdf`
`./aux-codes/ZFitterBosonPart-detailed.pdf`
`./aux-codes/WZFitter-detailed.pdf`
`./aux-codes/RadiatorFunctions-detailed.pdf`

On 3 March 2011, ZFITTER authors found by a google search that the Gfitter/gsm package contains text [identities] which have been created by the authors of Gfitter using text [identities] taken by copy-paste out of ZFITTER v.6.42. [See the three *.f files mentioned above.]
Roughly speaking, one may summarize that probably the complete kernel of the Standard Model one-loop and higher-order corrections has been "taken over".
This is, at the same time, the physics contents of the article published in EPJ C60 (2009) 543.
Let me mention that the Gfitter project has three essentials:

- Physics models like Gfitter/gsm
  Any model analysis relies on the "room" in parameter space which is left by a Gfitter/gsm analysis. So Gfitter/gsm is part of any other, formally more advanced physics analysis.
- Data analysis software
- Specific data analysis, using the two above items as tools.

The copy-paste of ZFITTER by Gfitter was made officially public at DESY by the ZFITTER spokesperson first on 9 March 2011:

./email-riemann-zfitter-in-gfitter-proof-2011-03-09.pdf
The following documents were attached:
./dizet6_42.f
./GfitterEW.tgz
./barbieri-NPB409-1993.pdf
./realistic-ZfPC44-1989.pdf
./GSMMath.cxx
./ZFitterFermionPart.cxx
The collection of copy-paste examples was very incomplete that day, when compared to the knowledge of today, but it made evident that a serious misconduct happened.
After this day, it seems to us not appropriate if informed persons [mostly physicists at DESY] claim that there is no misconduct identifyable.
On the same day, any information distribution to persons outside DESY became forbidden by DESY administration to the DESY ZFITTER authors. Generally using email services for topics around the Gfitter case was forbidden.[4]
See:
./aux-mail/email-mnich-abmahnungen-2011-03-09.pdf [may be made known on justified request]
The ZFITTER authors outside DESY could not be informed on the case. Additionally, any further study of the case and any direct negotiations of ZFITTER and Gfitter became nontrivial or impossible, until today.

Nevertheless, the copy-paste is documented since July 2011 to the general public with a variety of quite different examples at
http://zfitter.com/zfitter-code-in-gfitter.html
We have identified about 175 Fortran statements of ZFITTER which have been used to create Gfitter/gsm.
A list [not foreseen for distribution] is given here:
./mail/gfitter-uses-175-functions-of-zfitter.txt
This corresponds to more than about 500 lines of Fortran [or more], determined independently by another ZFITTER author.
It is quite possible that there are more items copy-pasted. We did not care about completeness. The proof that copy-paste has been applied in an essential amount is evident.
We applied several different search patterns, among them:

- Look and see the agreement of formal properties, e.g. line breaks, namings, ordering of terms, the logics, etc.
- Some formulas may be found only in the ZFITTER code. And in Gfitter. And nowhere else.
- Some formulas are wrong or not unique in the ZFITTER publications which are quoted as a source of Gfitter, but they are correct in Gfitter and look like in ZFITTER.
- Strange agreements/differences of articles and codes [e.g. the funny 127/1270 puzzle] show a correspondence of using latex and Fortran sources in parallel for copy-paste. See also the interplay of the webpages on Gfitter in this respect.
  Some of the shorter identities in Gfitter/gsm might be coded independent of ZFITTER if

[4] J. Mnich considers this to be valid until today. The fact is mentioned to make plausible that J. Mnich appears to us to be an Editor who is not sufficiently neutral in the case.

estimating this only by looking into the code; but having the copy-paste mistakes, the latex sources and their use and the funny 127/1270 mismatch at hand, the conclusions are definitive even in such cases.

```
In the Fortran program ZFITTER/dizet6_42.f:
      COEFA3=-4544045D0/864+   1340*D2+118915D0/36*D3  -1270D0*D5
     &      +(71621D0/162  -209D0/2*D2   -216D0*D3+5D0*D4+55D0*D5)*ANF
     &      +(-13171D0/1944+ 16D0/9*D2  +26D0/9*D3            )*ANF**2
*

Here, the D5=zeta(5).
The same functional dependence appears in Gfitter/GSM/RadiatorFunctions.cxx:
   m_CA3   = ( - 4544045/864.0 + 1340*zeta2 + 118915/36.0*zeta3 - 1270*zeta5
               + (71621/162.0 - 209/2.0*zeta2 - 216*zeta3 + 5*zeta4 + 55*zeta5)*m_nf1
               + (-13171/1944.0 + 16/9.0*zeta2 + 26/9.0*zeta3)*m_nf1*m_nf1 );

\Here, the zeta5=zeta(5).
```

- Sometimes literature is cited in the Gfitter/gsm code as a source for coding which evidently disagrees from the coding.

- there are typos in Gfitter due to improper copy-paste, see
  `http://zfitter.com/gfitter-gsm-patches.html`
  One example with two "integration" typos from copy-paste is:

```
ZFITTER/bkqcdl5_14.f, Fortran function XRMQCD, authored by ZFITTER:
...
     &        +2D0*AMT2/AMZ2*(-23D0/8D0+D2+3D0*D3)
     &    -1D0/4D0*(1D0+(1D0-4D0*QBM*SW2)**2)*S/(AMZ2-S)*LOG(S/AMZ2))

Gfitter/ZFitterQCDCorrections.cxx, C++ function rmqcd:
...
               + 2.0*mt2/MZ2*(-23.0/8.0*D2+3.0*D3)
          - 1.0/4.0*(1.0 + QBM)              *S/(MZ2-S)*TMath::Log(S/MZ2) );
```

In sum, we consider the substantial copy-paste of software as proven without any doubt.

The list `./12may2011-gfitter-copy-paste-list-11dec2011.txt`
which is extracted from gsm_21jul2011.tgz is, by the way, not complete.
As one example, we may look at the variable "m_CA3" in file Gfitter/gsm/RadiatorFunctions.cxx, line 109, compared to variable "COEFA3" at line 5078 of ZFITTER/dizet6_42.f.
Both agree due to copying, as discussed.
But in the list 12may2011-gfitter-copy-paste-list-11dec2011.txt or in the other comments in Gfitter/gsm/RadiatorFunctions.cxx this is not made seen.

4.1 One example

The 175 identified copy-pasted identities are listed here:
`./mail/gfitter-uses-175-functions-of-zfitter.txt`
Instructive examples have been worked out in
`http://zfitter.com/zfitter-code-in-gfitter.html`

One of them shall be shown here, for illustrational purposes:

```
From ZFITTER/dizet4_62, subroutine PROW:

      SUBROUTINE PROW (QI,ROW)
*
      IMPLICIT REAL*8(A-H,O-W,Y-Z)
      IMPLICIT COMPLEX*16(X)
      COMMON/CDZCON/PI,PI2,F1,D3,ALFAI,AL4PI,AL2PI,AL1PI
      COMMON/CDZWSM/AMW2,AMZ2,R,R1,R12,R2,AMH2,RW,RW1,RW12,RW2,RZ,RZ1,
     *      RZ12,RZ2,ALR,ALRW,ALRZ,SW2M,CW2M,AKSX,R1W,R1W2
      COMMON/CDZWSC/SL2,SQ2,W0,W0F,Z0,Z0F,DWZ0R1,DWZ0F,XWM1,XWM1F,XZM1,
     &      XZM1F,XWZ1R1,XDWZ1F,XZFM1,XZFM1F,XAMM1,XAMM1F,XWFM1,XWFM1F
      COMMON/CDZVZW/V1ZZ,V1ZW,V2ZWW,V1WZ,V2WWZ,VTB
*
      QIQJ=QI*(1.D0-QI)
      WM1A=DREAL(XWM1+XWM1F)
      W0A=W0+W0F
      WFM1A=DREAL(XWFM1+XWFM1F)
      ROW=1.D0+AL4PI/R1*(WM1A-W0A+WFM1A-7.D0/1.D0+5.D0/8.D0*R*R1W
     *   -9.D0/4.D0*R/R1*ALR+3.D0/4.D0/R+3.D0*R-3.D0/R*R12*QIQJ
     *   +(1.D0/2.D0/R-1.D0-2.D0*R12/R*QIQJ)*V1WZ
     *   +2.D0*R*V2WWZ+2.D0*R1*(77.D0/12.D0-2.D0/3.D0*PI2+109.D0/36.D0
     *   -3.D0/2.D0*QIQJ))
      PROW1=100.D0*(ROW-1.D0)
*
      END

From Gfitter/gsm/WZFitter.cxx, function "rho":

   // eq. (10.71) of The Standard Model in the Making
   // one and two point functions are replaced
   // by fermionic and bosonic contribution
   Double_t rho    = ( 1.0 + GConstants::alphaQED()/(4.0*TMath::Pi()*(1.0-m_R))
                       *(m_W_MW - m_W0 + m_WF_MW - 7.0 + 5/8.0*m_R*(1.0+m_R)
                         - 9/4.0*m_R/(1.0-m_R)*TMath::Log(m_R)
                         + 0.75/m_R + 3.0*m_R - 3.0/m_R*(1.0-m_R)*(1.0-m_R)*ChUpDo
                         + (0.5/m_R - 1.0 - 2.0*(1.0-m_R)*(1.0-m_R)/m_R*ChUpDo)*GetVertex().GetV1WZ()
                         + 2.0*m_R*GetVertex().GetV2WWZ() + 2.0*(1.0-m_R)
                         *(77/12.0 - 2/3.0*GMath::IPow( TMath::Pi(),2 ) + 109/36.0 - 3/2.0*ChUpDo)) );
   return rho;
```

The comment line in Gfitter/gsm/WZFitter.cxx suggests that the formula for "rho" is taken from the monography by D. Bardin, G. Passarino, "The Standard Model in the Making" (Oxford, UK: Clarendon (1999) 685 p.), but this is not the case:

$$
\begin{aligned}
\bar{\rho}_W^f = 1 + \frac{\alpha}{4\pi s_W^2}\Bigg\{ & 4s_W^2\left[\left(\frac{29}{24} - 2\zeta(2)\right)Q_W^2 + \frac{3}{4}Q_u Q_d\right] + \frac{3}{8c_W^2}\left(\sigma_u^2 + \sigma_d^2\right) \\
& + \frac{\sigma_u\sigma_d}{c_W^2}\left[\left(\frac{1}{c_W^2}+1\right)^2 M_W^2 C_0\left(Q^2;0,M_z,0\right) + \left(\frac{1}{c_W^2}+\frac{3}{2}\right)\ln c_W^2 - \frac{1}{c_W^2} - \frac{5}{2}\right] \\
& + 2\Bigg[-2\left(2+c_W^2\right)M_W^2 C_0\left(Q^2;M_W,0,M_z\right) - \left(\frac{1}{12c_W^2}+\frac{5}{3}+c_W^2\right) \\
& \times B_0^F\left(-M_W^2;M_z,M_W\right) + \left(\frac{1}{12c_W^2}+1+c_W^2\right)\ln c_W^2 + \frac{1}{12c_W^2} + \frac{55}{9} - c_W^2\Bigg] \\
& - \frac{11}{2} + \frac{5}{8}c_W^2\left(1+c_W^2\right) - \frac{9}{4}\frac{c_W^2}{s_W^2}\ln c_W^2 + \mathcal{W}\left(M_W^2\right) - \Delta\rho_W^F\Bigg\}. \qquad (10.71)
\end{aligned}
$$

4.2 A Gfitter/gsm version dated 12 May 2011

From the side of Gfitter people, we may add the following information.
It may be extracted from
`./gsm_21jul2011.tgz`
which we found in the internet at the webpage of Gfitter on 22 July 2011. The package is dated as of 21 July 2011. Presently, a similar package is available for public download at
`http://gfitter.desy.de/download/`
The Webmaster is the DESY directorate and the write permission for the webpages under the address

http://gfitter.desy.de has an external professor. The package `http://gfitter.desy.de/download/gsm_23aug2011` has been created by A. Hoecker, CERN.

In fact, ZFITTER protested several times against posting such packages in the internet because the creation was part of an unsuccessful and unfinished trial to find a common way out of the inconveniences due to the Gfitter history. The idea was to "repair" the mutual relations of ZFITTER and Gfitter by, among other measures, acknowledging that authors of Gfitter/gsm come from both groups. What was posted without informing us was a one-sided draft. We see several reasons not to accept the package, but this is not the point to discuss here.[5]
21 July 2011 – this is the packing date, but files are mostly due to 12 May 2011.

When applying the unix command grep with argument "dizet" to the unpacked gsm_21jul2011, one gets a return of more than 100 hints to dizet Fortran line numbers hinting on agreement of Gfitter/gsm and ZFITTER/dizet:
`./grep-dizet-in-gsm.txt`
looking like the following samples:

```
  ...
ZFitterFermionPart.cxx:   // package dizet6_42.f line 1910-1960
ZFitterFermionPart.cxx:      // see dizet6_42.f line 1919
ZFitterFermionPart.cxx:       // see dizet6_42.f line 1921-1926
ZFitterFermionPart.cxx:      // see dizet6_42.f line 1920
ZFitterFermionPart.cxx:      // see dizet6_42.f line 1927
ZFitterFermionPart.cxx:      // see dizet6_42.f line 1929
ZFitterFermionPart.cxx:      // see dizet6_42.f line 1931
ZFitterFermionPart.cxx:      // see dizet6_42.f line 1935-1944
ZFitterFermionPart.cxx:// see ZFitter package dizet6_42.f line 1329-1352 ( function XAMF )
ZFitterFermionPart.cxx:// see ZFitter package dizet6_42.f line 1249-1279 ( function XDWF)
ZFitterFermionPart.cxx:// and ZFitter package dizet6_42.f line 1281-1327 ( function XDZF)
 ...
```

Although the comments are not as correct as we would like, they are quite interesting.
The package was seemingly created on 12 May 2011.
This is quite instructive, because on 11 May 2011 was the moderated meeting in Zeuthen, where Gfitter claimed yet that about 12 identities are taken over by copy-paste:
M Goebel: "Any number but 12 is wrong."
They knew better, but they did not tell us.

So it looks like an activity one day after the 11-May-meeting with the purpose to bring some order into the internal book-keeping of Gfitter. Unfortunately, not for the public.
We do not rely with our complaints on the findings in that version of Gfitter. But it is striking to see that its contents is much closer to our findings than any of the official statements by Gfitter.
One might argue that the program is not public, so its contents is not legally usable for arguing. But this is different: the file was publicly available in the internet, and we were informed by others that it was "officially" distributed among all the other participants of the mediation meeting. Why we were not addressed, is another story.

[5] In fact, until now there is a Gfitter/gsm package for download, see `http://gfitter.desy.de/download/`. It is dated now 23 Aug 2011 and is also illegal because it contains statements about ZFITTER persons we would not agree upon. DESY [IT, PR, DIR, legal department] is asked since September 2011 several times to close the link. The legal department is yet studying the arguments. The last request dates 16 Dec 2011, see "email-riemann-an-umhey-2011-12-16.pdf".

The Gfitter/gsm AUTHORS file contained the statements:

```
Package:  Gfitter/GSM
Purpose:  Standard Model predictions of electroweak observables
Authors:  G. Degrassi, P. Gambino, Gfitter Group*, B. Kniehl, ZFITTER Group**
          See class header files for information on class authorship
Licence:  GPL license: http://www.gnu.org/licenses/gpl.html
```

We did never agree on that.
It is known to us that Prof. G. Degrassi et al. and Prof. B.A. Kniehl were never asked to co-author a future Gfitter/gsm package. They did not agree on that when asked by me on 8 Aug. 2011 to comment, see
`./mail/email-degrassi-to-riemann-2011-08-08.pdf`
`./mail/email-kniehl-to-riemann-2011-08-08.pdf`

4.3 Does Gfitter cite the use of ZFITTER software?

The use of ZFITTER code in Gfitter/gsm is carefully hidden.
This is intentional and has been done collectively by the four authors.

Proof:

- Code:

  The code is proprietary until today.
  The copy-paste is hidden by changes of conventions etc.
  Comment lines which were in ZFITTER pointing to e.g. Kniehl's or Degrassi's codings are eliminated in Gfitter.
  The comment lines in Gfitter pointing to literature are often faking.
  The comment lines in Gfitter pointing to ZFITTER dizet6_42 make the impression that really some lines are taken over, but very few of them. I remember about 12 such cases in the files Gfitter/gsm/*.cxx. But there are much more of them, namely at least about 175.

  In an email exchange of T. Riemann and K. Moenig on 18 May 2009
  `./mail/email-moenig-author-2011-03-15.pdf`
  and on occasion of two meetings in the floor where they both have their offices, T. Riemann asked K. Moenig for the opportunity to see the Gfitter package. This was not made possible.

- Oral statements by Gfitter

  On several occasions the authors explained that they never copied from ZFITTER.
  Several times on 7 and 8 March 2011 against T. Riemann in Zeuthen [K. Moenig] and by phone [Prof. J. Haller before and after a consultation of M. Goebel]
  also at the moderated meeting of representatives of ZFITTER and Gfitter on 11 May 2011 in Zeuthen. Although proofs were presented there for the copy-paste [among others were present: S. and T. Riemann, S. Moch, G. Weiglein, all from DESY].
  The explanation given by Dr. Hoecker at that meeting was:
  Martin [Goebel], often in presence of Dr. Hoecker, used the literature, and only in those extremely rare cases, where the literature was wrong or incomplete, Martin [Goebel] copied-pasted from ZFITTER by using the editor emacs. All these instances were properly marked [what is not true

...].
This is, according to Dr. Hoecker, no copy-paste in the very meaning of the phrase.
OK, no comment needed to be added.
Until today, Gfitter authors are not ready to call their actions hidden copy-paste.

- In written form:

  Here, in first instance, we refer to EPJ C60 (2009) 543.
  In the complete article, there is absolutely no one hint to a use of ZFITTER coding in Gfitter.
  The presentation makes the impression of an independent creation.
  The authors even speak of 'excellent numerical agreement' with ZFITTER, in order to suggest that the two codes are independent.
  In fact, an 'excellent agreement' would only signal that there are no relevant mistakes due to copying. Further, the 'excellent agreement' was never demonstrated and one should have doubt about this. We comment this [including few copy-mistakes] at
  `http://zfitter.com/gfitter-gsm-patches.html`

  Yet on 11 Sept 2011 one of the authors of Gfitter [A. Hoecker] wrote in an email to the spokesperson of ZFITTER:
  "Dieser Code wurde nicht fuer die Oeffentlichkeit gemacht, und das haben Sie zu respektieren."
  google tranlator [improved]: "This code has not been done for the public, and you have to respect that."
  Nothing to be added.

It is also remarkable that in the other 35 publications, which are available in the internet from December 2007 till February 2011, in no one case the copy-paste of ZFITTER is mentioned
See:
`http://zfitter.com/gfitter-publications.html`
Interesting examples are:

- Sample 1., the first presentation of the Gfitter project:
  M. Goebel, "Electroweak Fits using Gfitter", Talk held at the Kick-Off Workshop of the Helmholtz Alliance "Physics at the Terascale" in Hamburg, 4. Dec. 2007

- Sample 2.
  M. Goebel, "A Global Fit of the Electroweak Standard Model", Diploma thesis (Universitaet Hamburg, 29.02.2008); the thesis was awarded the Otto Stern award of the Department of Physics of the Hamburg University

- Sample 6., the main publication
  Henning Flacher (CERN), Martin Goebel (DESY & Hamburg U.), Johannes Haller (Hamburg U.), Andreas Hocker (CERN), Klaus Monig (DESY, Zeuthen), Joerg Stelzer (DESY)
  "Gfitter - Revisiting the Global Electroweak Fit of the Standard Model and Beyond"
  Journal article in Eur. Phys. J. C 60, 543 (2009)

- Sample 10.
  J. Haller, "The global electroweak fit with Gfitter" Talk held at CERN Theory Colloquium, Geneva, 11 February 2009

- Sample 34.
  K. Moenig, "α_s from the hadronic width of the Z", Talk at Workshop on Precision Measurements

of $alpha_S$, 9-11 February 2011 MPI Munich, not submitted to the Proceedings.
In the talk, ZFITTER and Gfitter are numerically compared. This proves only that there were no mistakes by code 'integrations', but the impression is made of a physically sensitive case.

The code references, which are usually given, are restricted to Awramik et al. and Baikov et al.
This proves that of course references are given, but not to ZFITTER.
If all this would be by chance, the probability would be as small as
$p_{all} = (p_{single})^{-36}$,
where p_{single} is the probability to forget once to quote an important reference.
Let us assume a huge number, $p_{single} = 10\%$. Then it is
$p_{all} = 10^{-36} = 0$.
The Gfitter authors say that they intensively quote ZFITTER papers.
This is true for the article published in EPJ C60 (2009) 543, with restrictions, for few other publications.
But:
They quote not for using the code [which, I repeat, is not spelled out in any form], but for

- ZFITTER being written in "outdated Fortran" [not true, Fortran is by no means outdated for number crunching in the next 10 years]
- ZFITTER being not supported [not true]
- ZFITTER being not modular enough for easy extensions [might be true, but is irrelevant if ZFITTER is linked as a library]
- excellent agreement [not proven, even doubtful – presumably the agreement is satisfactory]
- the ZFITTER approach [which is misunderstood, by the way, by Gfitter people]
- some formulas of the ZFITTER papers as if they would have been independently implemented

All this is subtle, but evidently on may just go through the publications, notably the article EPJ C60 (2009) 543, and will not be able to realize that the ZFITTER software has been used directly when creating Gfitter.

The systematic mentioning of ZFITTER by Gfitter was given up in 2010.
The following publications were the first ones with no mentioning of ZFITTER at all:

- Sample 24.
  J. Haller, "Gfitter - The global electroweak fit and constraints on new physics", talk at Rencontres de Moriond, QCD and High Energy Interactions, La Thuile, 13th-20th of March 2010
  – with proceedings
- Sample 25.
  M. Goebel, "Status of the global fit to electroweak precision data and constraints on the Higgs boson", talk at 35th International Conference On High Energy Physics: ICHEP 2010, 21-28 Jul 2010, Paris
  – with proceedings
- Sample 26.
  D. Ludwig, "The Global Electroweak Fit and Constraints on New Physics", talk at 35th International Conference On High Energy Physics: ICHEP 2010, 21-28 Jul 2010, Paris
  – with proceedings

- Sample 27.
  A. Hoecker, "Electroweak Constraints on Higgs Boson", talk at Higgs Hunting Workshop 2010, Orsay, France, July 2010.

The samples and further details may be found at
`http://zfitter.com/gfitter-publications.html`

In fact, it is not only that the scientific community has been cheated and that the intellectual property of ZFITTER authors is violated. In addition, the ZFITTER licence is also violated, twice.
Here the licence may be found:
`http://cpc.cs.qub.ac.uk/summaries/ADMJ`
`./CPC-licence.pdf`
Licence issues are discussed in appendix C.1.4.

The Gfitter authors say that the non-mentioning was not intentionally, but was just due to their habitual behavior.
This may well be.[6] But does not make it better.

5 The second complaint: Unacknowledged authorship due to Gfitter/gsm software

The complaint was discussed shortly in section 3.2 and we think that there is nothing to be added.

6 The third complaint: Copy-paste of latex text

In appendix A.3 and appendix A.4 text has been "integrated" by unauthorized and hidden copy-paste from publications [and their latex sources] of ZFITTER authors.
It is not known to us whether the Gfitter authors acknowledge the fact of copy-paste of text parts from ZFITTER texts into a diploma thesis and into Gfitter texts.

The copy-paste comprises eqns. (64) to (68) and equations (70) to (76) of Appendix A.3.
See section 6.1.

The copy-paste comprises eqns. (77) to (102) of Appendix A.4.
See section 6.2.

The equations have citations hinting to their origin.
The citations would be basically correct if one could consider the citations as reference to the scientific origin of the equations.
But they are not correct in the present situation.

Why?
Let us look at eqn. (73) of the article published in EPJ C60 (2009) 543.

[6] An impressive example for the "habitual behavior" is Sample 11. of http://zfitter.com/gfitter-publications.html: K. Moenig, "What are the prospects for the Higgs at Lepton Colliders?", Plenary talk of Working Group 1 "Higgs" of Workshop "From the LHC to a Future Collider", 9-27 February 2009, CERN. The transparencies contain 49 figures, and 37 of them are without a specific reference [12 figures carry inherent copyright labels which have not been erased].

The equation is referenced at p. 55 [of the preprint] of the article published in EPJ C60 (2009) 543: "... The bosonic parts read [16,168]:"

[16] Electroweak working group, D. Y. Bardin et al., hep-ph/9709229, Prepared for Workshop Group on Precision Calculations for the Z Resonance (2nd meeting held Mar 31, 3rd meeting held Jun 13), Geneva, Switzerland, 14 Jan 1994, CERN-YELLOW-95-03A.

[168] D. Y. Bardin, P. K. Khristova and O. M. Fedorenko, Nucl. Phys. B197, 1 (1982).

For a correct quotation one expects a referencing like: "... The bosonic parts are given in eqns. (257) to (260) of [16] and are reproduced here for the convenience of the reader:".
With no quotation of [168], where the corresponding expressions look quite different [and have different scientific contents].
The latex source files of ZFITTER have been used unauthorized.
We consider this to be not tolerable.
If in a fictitious situation of *correct citation* the latex sources of the quoted equations would have been used without mentioning, one might consider this as being in the "grey zone" of proper referencing.
In a very strict sense, also then the use of latex files of others would have to be mentioned explicitly.
But we need not to discuss the case.

6.1 Unauthorized copy-paste of latex text from the "LEP electroweak working group report" in CERN 95-03 into Appendix A.3 of the article published in EPJ C60 (2009) 543

The eqns. (64) to (68) in the last part of Appendix A.3 "Electroweak Form Factors" and all the eqns. (70) to (76) of Appendix A.3.1 "Self-Energies of W and Z Boson" of the article published in EPJ C60 (2009) 543 have been copy-pasted from eqns. (253) to (267) of EWWGR.tex, the latex source of the "Electroweak working group report".
This is visualized in the files
`./aux-paper/EPJC60_smfit08_A3.pdf`
`./aux-paper/Goebel_diploma_AppA.pdf`
`./pages--EWWGR.pdf`

The webpage
`http://zfitter.com/zfitter-text-in-gfitter-publications.html`
contains the most essential information of this section.

For convenience, we hold local copies of this webpage and of the files linked from there:
`./aux-paper/0811.0009v1.tar` [EPJ60(2009)543]
`./aux-paper/9709229.html` [EWWGR]
`./aux-paper/9709229v1.tar` [EWWGR]
`./aux-paper/EWWGR.tex` [EWWGR]
`./aux-paper/Gfitter_EPJC60_smfit08_Appendix.tex` [EPJ60(2009)543]

The editing of the formulas by Gfitter is sometimes more, sometimes less substantial.
The comment line

" % bible II.A.6 "

was found at begin of March 2011 in file Appendix.tex of the article EPJ C60 (2009) 543. The text is part of copy-paste from ZFITTER's text

cpc99-070_iba.tex
It was for us the first hint that something got copy-pasted, because we used the terms "bible I" and "bible II" as acronyms for the two articles:

- On the Lowest Order Electroweak Corrections to Spin 1/2 Fermion Scattering. 2. The One Loop Amplitudes.
  D.Yu. Bardin (Dubna, JINR), P.Kh. Khristova (Preslavski U.), O.M. Fedorenko (Petrozavodsk State U.).
  JINR-E2-81-486. Jul 1981. 16 pp.
  Published in Nucl.Phys. B197 (1982) 1

- On The Lowest Order Electroweak Corrections To Spin 1/2 Fermion Scattering. 1. The One Loop Diagrammar.
  D.Yu. Bardin, P.Kh. Khristova, O.M. Fedorenko (Dubna, JINR).
  JINR-E2-80-64. Jan 1980. 18 pp.
  Published in Nucl.Phys. B175 (1980) 435

At the end of this section, we should emphasize that the complete electroweak one-loop core of formulae used in Gfitter for the evaluation of the Z boson and the W boson decay widths, which are described in the appendix, are already published in the following two articles:

- "Electroweak One Loop Corrections to the Decay of the Neutral Vector Boson"
  A.A. Akhundov (Baku, Inst. Phys.), D.Yu. Bardin, T. Riemann (Dubna, JINR)
  JINR-E2-85-617. Aug 1985. 14 pp.
  Published in Nucl.Phys. B276 (1986) 1
  http://www-lib.kek.jp/cgi-bin/img_index?8512220
  http://dx.doi.org/10.1016/0550-3213(86)90014-3

- "Electroweak One Loop Corrections To The Decay Of The Charged Vector Boson"
  D.Yu. Bardin, S. Riemann, T. Riemann (Dubna, JINR)
  JINR-E2-86-169. Mar 1986. 10 pp.
  Published in Z.Phys. C32 (1986) 121-125
  http://www-lib.kek.jp/cgi-bin/img_index?8607019
  http://dx.doi.org/10.1007/BF01441360

Nothing has been added since then, although the programming in ZFITTER/dizet has been changed a bit from 1985 till 2009.
So, in the article EPJ C60 (2009) 543 it is senseless to repeat these one-loop formulae. Instead, it might have been interesting to know in more detail how the higher-order corrections have been treated in Gfitter/gsm.

6.1.1 One example

We quote one example from the collection:

```
... even the comment was copied and we give it explicitly. It was our first hint to the latex tex
action:
eq. (260) of ZFITTER basics:

%   bible II.A.6
```

```
Z^{^F}_b(M_Z^2) &=&
-4R^2+ \frac{17R}{3}-\frac{23}{9}+\frac{5}{18R}-\frac{\rW}{2}
+\frac{\rW\rZ}{6}
+\rW\left(-\frac{3}{4}+\frac{3\rZ}{8}-\frac{\rZ^2}{12} \right) \ln \rZ
\nll
&&-~\frac{1}{12R}\ln R + \frac{\ln \rZ}{2R}
+\left(-R^3+\frac{7R^2}{6}-\frac{17R}{12}-\frac{1}{8}
\right)\frac{L_{_{WW}}(\zm^2)}{\wm^2}
\nll
&&+~\left[\frac{1}{2}-\frac{5\rZ}{24}+\frac{\rZ^2}{12}+\frac{1}{2(\rZ-4)}
\right] \frac{ L_{_{ZH}} (\zm^2) } {{\wm}^2}


corresponds to eq. A.13 of diploma thesis
and to eq. (73) of  the article published in EPJ C60 (2009) 543


%   bible II.A.6
{\sum}_{\sss{ZZ}}^{\prime{\rm Bos},F}(M_Z^2) \ =\ &
   -4\ctwf+ \frac{17\ctws}{3}-\frac{23}{9}+\frac{5}{18\ctws}-\frac{r_W}{2}
   +\frac{r_Wr_Z}{6}
   +r_W\left(-\frac{3}{4}+\frac{3r_Z}{8}-\frac{r_Z^2}{12} \right) \ln r_Z
& \nonumber  \\
&-\,\frac{1}{12\ctws}\ln \ctws + \frac{\ln r_Z}{2\ctws}
   +\left(-\ctwsix+\frac{7\ctwf}{6}-\frac{17\ctws}{12}-\frac{1}{8}
   \right)\frac{L_{{WW}}(M_Z^2)}{M_W^2}
& \nonumber \\
&+\,\left(\frac{1}{2}-\frac{5r_Z}{24}+\frac{r_Z^2}{12}+\frac{1}{2(r_Z-4)}
   \right) \frac{ L_{ZH} (M_Z^2) } {{M_W}^2}
```

6.2 Unauthorized copy-paste of latex text from the article "ZFITTER v.6.21" in CPC133(2001)129 into Appendix A.4 of the article published in EPJ C60 (2009) 543

The equations (77) to (102) in Appendix A.4 are copy-pasted from equations (3.121) to(3.150) of ZFITTER's article Bardin et al., CPC133(2001)129
Both in the text of the article and in the C++ program Gfitter/gsm. The webpage
`http://zfitter.com/zfitter-text-in-gfitter-publications.html`
contains all the essential information of this section.

The reproduced material proves that not only the electroweak one-loop core has been "integrated", but the same has been done with substantial parts of the higher order electroweak and QCD corrections.

We do not want to repeat the complete file list of section 6.1 here and add those files needed addnally for this section's needs:
`./aux-paper/9908433.html`
`./aux-paper/9908433v3.tar`

./aux-paper/cpc99-070_iba.tex
./aux-paper/Gfitter_EPJC60_smfit08_Definitions.tex

The copying is visualized with the files:
./aux-paper/EPJC60_smfit08_A4.pdf
./aux-paper/Goebel_diploma_AppB.pdf
./aux-paper/zfitter-cpc-133-2001-RVQS3-121.pdf

In fact, the Gfitter latex file
http://Definitions.tex
is not only the source file for formulas but also contains a lot of definitions taken from the ZFITTER latex file
http://cpc99-70_defs.tex
prepared for Comput. Physics Comput. 133, namely approximately 100 definitions which are just copied.

6.2.1 One example

We again quote one example. The fact that even the labels agree, ZFITTER: {\label{rvfact}} compared to Gfitter: {\label{eq:rvfact}}, is another, truly simple prove that the latex sources of ZFITTER have been used by Gfitter.

One nice example is eq. (3.121) of our article in CPC133 compared to eq. (77) of Appendix A.4 "Radiator functions" of the article published in EPJ C60 (2009) 543 and eq. (B.1) of M. Goebel's diploma in Appendix B "Radiator functions":
Here is the formula as in latex file cpc99-070_iba.tex for CPC133:

```
%---
\bqa
R^{\fq}_{\sss{V}}(\sman)&=& 1 + \frac{3}{4} Q^2_q \frac{\alpha(\sman)}{\pi}
             +\frac{\als(\sman)}{\pi}
             -\frac{1}{4}Q^2_q\frac{\alpha(\sman)}{\pi}\frac{\als(\sman)}{\pi}
%            +{\cal O}(\alpha^2)
\nll
        & &   + \left[C_{02}+C^t_2\left(\frac{s}{\mts}\right)\right]
              \left(\frac{\als(\sman)}{\pi}\right)^2
             + C_{03}\left(\frac{\als(\sman)}{\pi}\right)^3
%            + {\cal O}(\alpha^4_{_S})
\nll
        & &   + \frac{\mcS(\sman)+\mbS(\sman)}{s} C_{23}
                              \left(\frac{\als(\sman)}{\pi}\right)^3
\nll
        & &   + \frac{\mqS(\sman)}{s} \Biggl[
                       C^V_{21}      \frac{\als(\sman)}{\pi}
                     + C^V_{22}\left(\frac{\als(\sman)}{\pi}\right)^2
                     + C^V_{23}\left(\frac{\als(\sman)}{\pi}\right)^3
                                \Biggr]
\nll
   & &+\frac{\mcQ(\sman)}{\smans}\left[ C_{42}-\ln\frac{\mcS(\sman)}{s}\right]
                              \left(\frac{\als(\sman)}{\pi}\right)^2
      +\frac{\mbQ(\sman)}{\smans}\left[ C_{42}-\ln\frac{\mbS(\sman)}{s}\right]
                              \left(\frac{\als(\sman)}{\pi}\right)^2
\nll
        & &   + \frac{\mqQ(\sman)}{\smans} \Biggl\{
                      C^V_{41}       \frac{\als(\sman)}{\pi}
                 + \left[C^V_{42}+C^{V,L}_{42}\ln\frac{\mqS(\sman)}{s}\right]
                              \left(\frac{\als(\sman)}{\pi}\right)^2
                                 \Biggr\}
\nll
        & &   +12\frac{\mqpQ(\sman)}{\smans}
                              \left(\frac{\als(\sman)}{\pi}\right)^2
             -\frac{\mqX(\sman)}{s^3}\Biggl\{8+\frac{16}{27}
```

```
              \left[155+6\ln\frac{\mqS(\sman)}{s}\right]
                                \frac{\als(\sman)}{\pi}\Biggr\},
\label{rvfact}
\\


compared to latex file Appendix.tex for  the article published in EPJ C60 (2009) 543, Appendix:

\begin{flalign}
R^{q}_{\sss{V}}(s)= 1 & + \frac{3}{4} Q^2_q \frac{\alpha(s)}{\pi}
             +\aas(s)
             -\frac{1}{4}Q^2_q\frac{\alpha(s)}{\pi}\aas(s)
%            +{\cal O}(\alpha^2)
&\nonumber \\
        &   + \left[C_{02}+C^t_2\left(\frac{s}{\mts}\right)\right]
                \aas^2(s)
             + C_{03}\aas^3(s)
             + C_{04}\aas^4(s)
&\nonumber\\
        &   +\, \delta_{C05}\aas^5(s)
            + \frac{\mcS(s)+\mbS(s)}{s} C_{23}
                               \aas^3(s)
&\nonumber\\
        &   +\, \frac{\mqS(s)}{s} \left[
                         C^V_{21}      \aas(s)
                      + C^V_{22}\aas^2(s)
                      + C^V_{23}\aas^3(s)
                                  \right]
&\nonumber\\
    &+\, \frac{\mcQ(s)}{s^2}\left[ C_{42}-\ln\frac{\mcS(s)}{s}\right]
                               \aas^2(s)
      +\frac{\mbQ(s)}{s^2}\left[ C_{42}-\ln\frac{\mbS(s)}{s}\right]
                               \aas^2(s)
&\nonumber\\
    &   +\, \frac{\mqQ(s)}{s^2} \left\{
                       C^V_{41}       \aas(s)
                + \left[C^V_{42}+C^{V,L}_{42}\ln\frac{\mqS(s)}{s}\right]
                               \aas^2(s)
                                   \right\}
&\nonumber\\
    &   +\, 12\frac{\mqpQ(s)}{s^2}
              \aas^2(s)
             -\frac{\mqX(s)}{s^3}\left\{8+\frac{16}{27}
              \left[155+6\ln\frac{\mqS(s)}{s}\right]
                                \aas(s)\right\}\,,&
\label{eq:rvfact
\end{flalign}
```

7 The fourth complaint: Unacknowledged authorship due to the text of the article EPJ C60 (2009) 543

The complaint was discussed shortly in section 3.2 and we think that there is nothing to be added.

8 Other publications by the Gfitter group in EPJC

8.1 Erratum to the article EPJ C60 (2009) 543 in July 2011

There is an Erratum to the article published in EPJ C60 (2009) 543, dated in July 2011.

"Revisiting the Global Electroweak Fit of the Standard Model and Beyond with Gfitter"

Henning Flacher (CERN), Martin Goebel (DESY & Hamburg U.), Johannes Haller (Hamburg U.), Andreas Hocker (CERN), Klaus Monig (DESY, Zeuthen), Joerg Stelzer (DESY).
CERN-OPEN-2008-024, DESY-08-160. Nov 2008. 66 pp.
Published in Eur.Phys.J. C60 (2009) 543-583, Erratum-ibid. C71 (2011) 1718
http://arxiv.org/pdf/arXiv:0811.0009
http://arxiv.org/ct?url=http%3A%2F%2Fdx.doi.org%2F10%252E1140%2Fepjc%2Fs10052-011-1718-y&v
bc7ee471

ZFITTER is not happy with the erratum. It does not express in a clear way what is the reason for the erratum. The authors do not express that they violated some ethical rules and regret this.

A serious problem of the erratum is its basics. I would make sense under two conditions:

- The anticipated new software package Gfitter/gsm should exist, but nobody would expect by now that it will ever evolve.
- Unauthorized, hidden copy-paste should be acknowledged and regretted at another public place, e.g. a webpage of Gfitter or in a common document of ZFITTER/Gfitter, but this is not seen at the horizon.

Of course, this both could not make the plagiarism undone.

The responsibility for the erratum is by its authors.
They knew that the appearance of the erratum was too early compared to the rest of the negotiation process of the two collaborations, and we know now that that rest failed to get finished.
The authors do not express that they violated some ethical rules and regret this.

The main reason for not finishing the software update is simple:
ZFITTER demands that Gfitter acknowledges scientific misconduct and plagiarism and that they regret this both against the scientific public and against ZFITTER. Gfitter does not agree on that. In the period May to October 2011 this was carefully tested out.

The presently posted Gfitter/gsm package at
http://gfitter.desy.de/download/gsm_23aug2011.tgz
is not authorized by ZFITTER. We do not share the opinions expressed there. We demanded several times since September 2011 that DESY as the responsible of the webdomain desy.de will remove the related files as soon as possible. No answer from DESY IT, Public relations, legal department so far.

We assume that the only way to handle the erratum is to ignore it.
When the article EPJ C60 (2009) 543 will get withdrawn, then the erratum becomes anyway superflous.
Needless to say that an erratum cannot cure a plagiarism.

8.2 A second Gfitter article: submitted to EPJC in July

Around 5 July 2011 Gfitter submitted another article to EPJC which is based on the software Gfitter. So, there was the problem of legality, and in fact the plan to publish the new article before the Summer conferences was the driving force to submit the Erratum to the article EPJ C60 (2009) 543 as soon as possible.
The second article is:

M. Baak, M. Goebel, J. Haller, A. Hoecker, D. Ludwig, K. Moenig, M. Schott, J. Stelzer
"Updated Status of the Global Electroweak Fit and Constraints on New Physics"
submitted to EPJC
DESY-11-107, CERN-OPEN-2011-033. Jul 2011. 58 pp.

`http://arxiv.org/pdf/arXiv:1107.0975`
`http://arxiv.org/pdf/1107.0975v1`

Once the new Gfitter/gsm package does not exist, the new article either should be retracted because it is also a result of plagiarism. This is the problem.

Gfitter discusses now to replace the submitted article by a new version where they use instead of Gfitter/gsm another software, namely a grid description of the Standard Model predictions which were so far calculated with ZFITTER basics.
There are two comments at hand on that:

- Replacing the software basics of an article so essentially means that this will be another article. We would consider this as misconduct. The correct solution is to withdraw the submission and to make a new one with a new submission date.
  The grid solution was available not earlier than in September 2011 [see the many conference talks in that period], while the article was ready and submitted 5 July 2011.

- The grid solution is also not realized without using ZFITTER. So, Gfitter again has the problem to quote it.
  In the presentation, Sample 45. at http://zfitter.com/gfitter-publications.html, the grid approach was presented first, but by no means explained:
  Matthias Schott, "Results from GFitter", talk held 2011-09-01 at the workshop "Implications of LHC results for TeV-scale physics", from 29 August 2011 to 02 September 2011. ZFITTER asked for an explanation but they did not answer properly. After several complaints by ZFITTER and other collegues, the slide 2 was corrected [without making this visible as a correction].
  This happened only after referring to the PhD thesis of M. Goebel "Tests of the Electroweak Standard Model and Measurement of the Weak Mixing Angle with the ATLAS Detector", which was defended on 19 Sep 2011 at Hamburg University. The thesis is yet unpublished, but the relevant pages are available on request. They finally accepted the objection and replaced the slides of M. Schott's talk in the internet.
  In fact, in M. Goebel's PhD thesis [Sep 2011] it is explained with few words what they do when creating the grid: They use ZFITTER:
  `./aux-paper/goebel-PhD-pages--thesis.pdf`
  ZFITTER expects presently that Gfitter refuses completely from using ZFITTER until the controversy has been finished. This would prevent Gfitter from having the grid at the disposal, but they do not respect oyur expectation.

8.3 Two titlepages in EPJC

Two Gfitter plots have been selected as front cover pages by EPJC:

`http://gfitter.desy.de/Figures/EPJC_71_1_FRONTCOVER.gif`
`./EPJC_71_1_FRONTCOVER.gif`

./EPJC_60_4_frontcover.gif

Both were available until 11 Aug 2011 at Gfitter webpages, presently one of them is shown yet.

A Other issues, not being part of the formal complaint

There are further issues.

We see in addition to the "Plagiarism" and the "Disputed authorship" issues also those of violation of licences and of "Conditions of use" of ZFITTER software.
Concerning these two additional issues, there is a non-resolved conflict of opinions between the DESY adminstration at one side and the ZFITTER collaboration at the other side.
Without that conflict, we would claim that the article published in EPJ C60 (2009) 543 violates the licences issued by CPC to DIZET and ZFITTER authors, and violates also the "Conditions of use" issued for ZFITTER in addition to that:

- The licence transfers the copyright for the software package to the authors of the article in CPC. For details see appendix C.1.4, the quotation from "email-carol-cpc-to-riemann-2011-11-08.pdf".

- The licence forbids to use ZFITTER without properly citing the publications in CPC *for this use*. The violation is evident.

- The licence forbids to give ZFITTER or a derivative like Gfitter/gsm to third persons without explicit written permission by the ZFITTER authors [as registered at CPC].
  The authors of Gfitter/gsm are M. Goebel, J. Haller, A. Hoecker, K. Moenig, see:
  ./email-hoecker-on-gsm-authors-20110512.pdf
  The author list of the article EPJ C60 (2009) 543 and those of many other applications of Gfitter/gsm include additionally H. Flaecher and J. Stelzer , and later additional scientists: M. Baak, D. Ludwig, M. Schott. This proves that Gfitter/gsm, the derivative of ZFITTER, has been given to third persons without written permission by ZFITTER.

- The additional "Conditions of use" of ZFITTER:

  "ZFITTER allows and encourages since more than 20 years the linking of ZFITTER and the attaching of user interfaces without special permission. It is not foreseen that users modify ZFITTER or integrate it into other software because it represents benchmark calculations, and a proliferation of ZFITTER is not in the interest of the authors or of the physics community."

  See also the webpages
  http://zfitter.com
  http://zfitter.com/legal-zfitter.html

  See also appendix B.
  There are many users of ZFITTER.
  No other collaboration but Gfitter is known to us which would complain that their work has been hindered due to the licence statements and the conditions of use.
  Such additional "conditions of use" are quite usual. Theoreticians who deliver software to the scientific community normally want to get quoted for that.
  See also the popular Creative Commons Licence formulation which is widely used in the open-source world:

http://creativecommons.org/licenses/by-nc-nd/3.0/
http://creativecommons.org/licenses/by-nc-nd/3.0/de/ [German version]
Here in the version "by-nc-nd" [Namensnennung-Keine kommerzielle Nutzung-Keine Bearbeitung, Deutschland].

We find our approach to intellectual property quite natural. But because there is the deep disagreement between ZFITTER and the DESY management on a series of legal issues we decided to restrict ourselves to the restricted set of complaints summarized above.[7]

B The ZFITTER project

The ZFITTER project started sometimes in the late 1970ties without having a label. The name was found by our co-author A. Olchevski when LEP started running. There was no internet and the first versions of the code are lost. The ZFITTER project is described in sufficient detail at
http://zfitter.com
The project - software, description for users, theory articles, comparisons with other codes etc. - is available open-source since more than 20 years [the internet is not much older].
The software is registered and copyrighted by the software archive of Computer Physics Communications [details see below].
Main parts of the webpage, which was for about 2 decades, until July 2011, located at
http://www-zeuthen.desy.de/theory/research/zfitter/
are unchanged compared to times before the Gfitter case started on 7 March 2011.
This is documented by the IT group of DESY, Zeuthen. Details may be made known on demand.

B.1 What is ZFITTER for the community?

For details on ZFITTER see
http://zfitter.com

B.1.1 ZFITTER – Theoretical Basics

There are, over a period of more than 30 years, many substantial articles on QED, electroweak and QCD corrections related to 2-fermion production in e^+e^--annihilation by ZFITTER authors. A spires search can be performed to quantify this.

B.1.2 ZFITTER – a Fortran Software project

ZFITTER is a Fortran Software project, dating back to the late Seventieth of the last century and supported until today, intended for a precision prediction of observables at the accelerator LEP at CERN, and related observables.
ZFITTER is widely used until today.
A huge part of the theoretical formulae was derived over many years exclusively by the members of the ZFITTER group and published in scientific journals.
ZFITTER was intended to comprise all available theoretical information, and so we integrated also more and more theoretical results from other authors. Especially when two-loop and higher-order

[7] The involvement of DESY in legal aspects is a bit bizarre also due to the fact that the ZFITTER authors were not hired by DESY when working on those parts of ZFITTER which are now under dispute.

corrections became available. This was done in close collaboration with other collegues and is carefully documented. See e.g. the introduction and reference list of D. Bardin,CPC 133 (2001) 229-395,
http://dx.doi.org/10.1016/S0010-4655(00)00152-1
and also the comments in the ZFITTER software.

ZFITTER was available as open-source software from the first day, and as such it is certainly a unique project.
The conditions of use were simple:

- Use it and quote it properly;
- Do not merge your group's interfacing software with the ZFITTER package in order to retain ZFITTER well-defined and trusted [and also in order to respect the interests of the authors];
- If you created an interface for your use which might improve ZFITTER when inserted, help updating ZFITTER.

ZFITTER was regularly carefully cross-checked by its authors in collaboration with others whereever possible and is considered a truly trustable software.
The user community includes all major LEP collaborations, the LEP electroweak working group etc. Many of the ZFITTER authors did never use the software by themselves; it was intended for use by the community.
Three software packages have been submitted to the software archive of CPC, see e.g.
http://cpc.cs.qub.ac.uk/summaries/ADMJ
but there were more than 20 other versions; they are retained for potential interests until today. ZFITTER has about 20000 lines of Fortran code, and the Standard Model library of it has about 7000 lines.

B.1.3 ZFITTER – program descriptions

Further, as a part of the project, we wrote about 350 pages of program description. The texts were written for users of ZFITTER, not for program authors. Many subtleties were not properly described because there was no need to do so.
This may become certainly a problem if somebody tries to retype the ZFITTER code from the publications. This is impossible.

B.1.4 ZFITTER – support

A last component of the ZFITTER project besides the software and its description is support.
The intensive phase of support is in the past. The code is stable, new theoretical results are seldom.
D. Bardin was the leading figure in all respects for ZFITTER, for about three decades. In 2005 it was decided by D. Bardin to basically finish his support of ZFITTER. See e.g. the corresponding comment in
http://dx.doi.org/10.1016/j.cpc.2005.12.009
On p.730 we write:
"The ZFITTER support group is composed of authors of ZFITTER version 6.21, long-term users of the program, and colleagues who contributed substantially to its present state. We hope that a kernel of us will stay with ZFITTER as long as the code is needed by the community. A correct citation of the ZFITTER package will include Ref. [2], together with the present update."

B.1.5 ZFITTER today

In fact, the ZFITTER support group exists and acts until today.
See http://zfitter.com
http://www-zeuthen.desy.de/theory/research/zfitter/
http://www.ifh.de/~riemann/Zfitter/zf.html [outdated after 2005]
http://zfitter.desy.de

In this section, I reproduced some details on ZFITTER, not only because of the demand of the Phublisher. Also in order to convince the Editor that ZFITTER is a software which one should not steel by hidden copy-paste.

ZFITTER is part of the living history of elementary particle physics in the era of LEP and after.

Addendum:
ZFITTER is in use. One nice example is the talk

- "Update on the Standard Model Higgs searches in ATLAS"
  by Fabiola Gianotti (CERN), on Tuesday, December 13, 2011, at the "CERN PUBLIC SEMINAR", see
  http://indico.cern.ch/conferenceDisplay.py?confId=164890
  http://indico.cern.ch/getFile.py/access?contribId=0&resId=1&materialId=slides&confId=164890
  On slide 9: the "Blue Band Plot" of the LEPEWWG [in an update by M. Gruenewald]:
  ./page-9-gianotti--ATLAS-Higgs.pdf
  The plot is made using ZFITTER.

Since 2009, similar applications in reviewing talks are made frequently with the Gfitter plots, replacing the tradition to refer to LEPEWWG or equivalent "official" collaborations.
This one might regret for several reasons.
An important one is the fact that the results of bodies like the LEPEWWG underwent a strong reviewing process by the members of LEPEWWG from several experienced experimental collaborations and are based on open-source software.

A bit arbitrarily, we had a look into the presentations at the
"10th ICFA Seminar on Future Perspectives in High-Energy Physics 2011 – Science driving facilities for particle physics"
Monday, October 3, 2011 to Thursday, October 6, 2011, at CERN
https://indico.cern.ch/conferenceOtherViews.py?showSession=all&showDate=all&view=standard&confId=113370
Four of the about 20 presentations reproduced a figure borrowed from Gfitter:

- Experimental Overview ICFA Seminar, CERN, 3rd October 2011, Talk by Terry Wyatt, University of Manchester.
  p.17, see 031011_twyatt_ICFA_Seminar.pdf

- Talk by M. Davier, see p. 25 for 2 figures, quoted for them is: New evaluation of hadronic part (DHMZ 2011). DHMZ 2011 = M. Davier et al., Eur.Phys.J. C71 (2011) 1515, arXiv:1010.4180 [hep-ph] Davier-ICFA.pdf

- Higgs physics, ICFA Seminar at CERN 2.10.2011 Sachio Komamiya Department of Physics and ICEPP The University of Tokyo, p.7 of `ICFASeminar_Higgs.pdf`
- The Standard Model: QCD and Electroweak Physics Sarah Demers Yale University ICFA 2011, p. 6 see `Demers_ICFA_SMPhysics.pdf`

C Reply to the requests of 2 Nov 2011 from the Publisher: ZFITTER authors

The publisher expresses as conditions of studying the Gfitter case, among others, in his email of 2011-11-02-18:26 [see above]:
" ... detailing the contribution each signing member has contributed to the writing of the computer program."
"... assess the contribution by each individual member of the complainant with respect to the computer program and thus also with respect to the previous and present composition of the ZFitter membership."

This is nearly impossible. What we may do is the following: Prove that certain persons are truly authors of the whole ZFITTER package , and let them then declare who also is a co-author.
This will be done here, according to the demands of German Urheberrechtsgesetz.
I have chosen as central figures Prof. D. Bardin, JINR and myself. The choice is based on pragmatic reasons, but also justified by the role which we two persons are playing for ZFITTER.

C.1 Authorship of D. Bardin and T. Riemann

I declare that Dmitri Yu. Bardin and myself are authors of the ZFITTER software.
The proof presented here has, chosen a bit arbitrarily, five elements:

- Statements by persons who joined D. Bardin and T. Riemann when working on ZFITTER
- A list of 23 scientific articles, authored by D. Bardin and T. Riemann, relying on ZFITTER
- The 2000 Prize of JINR for ZFITTER authors, including S. Riemann and T. Riemann
- Submission of three DIZET and ZFITTER software packages to Comput. Phys. Commun. by corresponding author T. Riemann
- A monography, written by D. Bardin and G. Passarino [co-author of the competing project TOPAZ0] describing in detail the complete theoretical ZFITTER basics

C.1.1 Statements by persons who joined us when we worked on ZFITTER

I sent out a question to 12 collegues who at the times of creating ZFITTER were in so close collaboration with us that they can estimate from this personal experience that D. Bardin and T. Riemann are among the "creators of the work", i.e. are authors [Miturheber according to German Urheberrechtsgesetz] of ZFITTER.
My letter with the question is reproduced here:
`./email-riemann-to-12-collegues-2011-11-04.pdf`
See the declarations in the 10 answers I got on the issue:
Prof. Wolfgang Hollik, MPI Munich, `./mail/Hollik.pdf`

Prof. Giampiero Passarino, Univ. of Torino, ./mail/Passarino.pdf
Prof. Guido Montagna, Univ. of Pavia, ./mail/Montagna.pdf
Prof. Zbigniew Was, Institute of Nuclear Physics Cracow, ./mail/Was.pdf
Prof. Bennie Ward, Baylor Univ. Texas, ./mail/Ward.pdf
Prof. Johannes Bluemlein, DESY, ./mail/Bluemlein.pdf
Prof. Wolfgang Lohmann, DESY, ./mail/Lohmann.pdf
Prof. Michael Kobel, Univ. Dresden, ./mail/Kobel.pdf
Prof. Dorothee Schaile, Univ. Munich, ./mail/Schaile.pdf
Prof. Bernd Kniehl, Univ. Hamburg, ./mail/Kniehl.pdf
I did not get reply from Prof. Jadach, INP Krakow and Prof. Jegerlehner, DESY, Zeuthen and Humboldt-Universität zu Berlin.

C.1.2 Articles authored by D. Bardin and T. Riemann and relying on ZFITTER

The following 23 articles would not have been written without a long-term authorship on ZFITTER. They are collected here:
./email-riemann-to-caron-2011-11-03-on-authorship.pdf
The list is not exhaustive.
The email to Dr. Caron, Publisher of Springer-Verlag, contains some additional information on submissions around ZFITTER to CPC and on descriptions of the program.

C.1.3 The Prize of JINR for ZFITTER

The Scientific Council of Joint Institute for Nuclear Research, Dubna, Russia, awarded the first prize of the year 2000 to:

D. Bardin, M. Bilenky, P. Christova, M. Jack, L. Kalinovskaya, A. Olchevski, S. Riemann, T. Riemann

for "Theoretical support of experiments at the Z resonance on precision tests of the Standard Model (Project ZFITTER)".
The report was written by Prof. Okun, ITEP, Moscow, Russia. It is reproduced here [in Russian]:
./jinr-prize-okun.pdf
Here is the document awarded to T. Riemann:
./jinr-prize-certificate-t-riemann-1.pdf
./jinr-prize-certificate-t-riemann-2.pdf
./jinr-prize-certificate-t-riemann-3.pdf

C.1.4 ZFITTER software packages in the software archive of Comput. Phys. Commun.

Out of the many versions of ZFITTER, there were three packages published between 1989 and 2005 in CPC and the software was archived in the archive of CPC with issuing a software licence to the authors of the accompanying article. This was done according to the rules of Akademie der Wissenschaften der DDR, DESY and CPC.
The submission history may also serve as proof of T. Riemann's authorship with ZFITTER as a whole:
At the times, there was no choice of a licence. The CPC licence, as issued to the versions:
./CPC-licence.pdf
The submission history of three articles in CPC on ZFITTER can be checked out with the result that

they all - together with the software - have been submitted by corresponding author Tord Riemann.
Proof: Carol Phillips, employee of Comput. Physics Commun.
The articles are:

- "Dizet: A Program Package for the Calculation of Electroweak One Loop Corrections for the Process $e^+e^- \to f^+f^-$ Around the Z^0 Peak"
  D.Yu. Bardin, M. Bilenky, T. Riemann, M. Sachwitz, H. Vogt
  Comput.Phys.Commun. 59 (1990) 303, article available at
  `http://www.sciencedirect.com/science/article/pii/0010465590901795`
  PHE-89-09 [AdW der DDR preprint]; preprint available at
  `http://ccdb4fs.kek.jp/cgi-bin/img/allpdf?198912317`
  DIZET is part of ZFITTER.

- "ZFITTER v.6.21 - A Semi-Analytical Program for Fermion Pair Production in e^+e^- Annihilation",
  D Bardin, M Bilenky, P Christova, M Jack, L Kalinovskaya, A Olchevski, S Riemann, T Riemann
  Comput.Phys.Commun. 133 (2001) 229-395, DESY-99-070, 192 pp.,
  `http://dx.doi.org/10.1016/S0010-4655(00)00152-1`
  hep-ph/9908433, see
  `http://xxx.lanl.gov/ps/hep-ph/9908433`

- "ZFITTER: A Semi-analytical program for fermion pair production in e^+e^- annihilation, from version 6.21 to version 6.42"
  A.B. Arbuzov, M. Awramik, M. Czakon, A. Freitas, M.W. Grunewald, Klaus Monig, S. Riemann, T. Riemann (Dubna, JINR & DESY, Zeuthen & Cracow, INP & Wurzburg U. & Silesia U. & Fermilab & University Coll., Dublin)
  Comput.Phys.Commun. 174 (2006) 728-758,
  `http://dx.doi.org/10.1016/j.cpc.2005.12.009`
  DESY-05-034, UCD-EXPH-050701, FERMILAB-PUB-05-256-T, WUE-ITP-2005-004, SFB-CPP-05-22. Jul 2005. 60 pp, e-Print: hep-ph/0507146
  `http://xxx.lanl.gov/ps/hep-ph/0507146`
  The various affiliations are reproduced here. They make evident that any legal discussion is mostly complicated and should be avoided. Instead, ethical arguments apply once we agree on them.
  And, of course, here the Springer rules apply perfectly.

We have to mention that the authorship of Klaus Moenig on the ZFITTER software and on the article in CPC174 describing the software was withdrawn due to insufficient contributions, according e.g. to the rules of DFG [Deutsche Forschungsgemeinschaft]. This was approved not in 2005, but only in 2011, when the authorship became doubtful and got certified. The decision was taken uniquely by the authors, it is documented, and details my be given on demand. Dr. Moenig accepted the decision:
`./mail/email-moenig-author-2011-03-15.pdf`
So, we do not consider him as author of ZFITTER.

In `./mail/email-carol-cpc-to-riemann-2011-11-08.pdf`
the licence situation is explained from point of view of CPC:

" As far as the CPC Program Library is concerned the copyright of the code remains with the author. The author being all or any one of the authors named on the paper. Therefore, in the case of DIZET the copyright owners are, D. Yu. Bardin, M.S. Bilenky, T. Riemann, M. Sachwitz, H. Vogt and P Ch. Christova.
I do have some documentation for the latest ZFITTER program, published in 2006 and can confirm that you were the corresponding author.
I have a Program Mailing Declaration form signed by you on the 19th of December 2005. I have attached a blank copy of this form so you can check the contents. If you would like a copy of the signed form let me know and I'll arrange to have it scanned and sent."

The licence transfer form is reproduced here:
`./pmdformnew.pdf`
`./mail/cpc-program-m-declar-im4511_2005-12-20.pdf`

The submission documents, from the side of the submitter/corresponding author/employer can also only be reproduced for the last submission; the older ones are not archived. Nobody expected a copyright problem of the kind discussed here more than 5 years after a software submission.
Here is the blank for submission to CPC2005:
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Here DESY defines the rights of DESY related to the publication:
`./scan-01-maren-stein-20111107112924757.pdf`
Application by T. Riemann to publish "ZFITTER - from version 6.21 to version 6.42" in CPC, approval dated 28 July 2005:
`./scan-01-maren-stein-20111107113622704.pdf`
The documents certify that the article was legally submitted by T. Riemann to CPC. The signing DESY director Prof. A. Wagner was a prominent member of the OPAL collaboration board and he was fully aware of the fact that a submission of article and software to CPC by an author constituted an acknowledgement by DESY that certain authors' rights with the paper and the code were in the hands of the authors. Otherwise, DESY would have prepared an accompanying document where the licence rights delivered by CPC would have been explicitely transferred from the author(s) to DESY [and others]. This did not happen and was not and is not usual practice at DESY.

We mention here that the CPC licence demands from a user of the software to properly quote the CPC article and, in case the derived program is given to third parties, that for the second an explicit written agreement by the authors of the original software is needed. See here:
`./CPC-licence.pdf`

C.1.5 The monography "The Standard Model in the Making", written by D. Bardin and G. Passarino

The following monography, written by D. Bardin and G. Passarino, my also serve as proof of D. Bardin's authorship with ZFITTER as a whole:
`http://www.amazon.com/Standard-Model-Making-Interactions-International/dp/019850280X`

C.2 The authors of ZFITTER

We declare in a second step that we have, over a period of more than 20 years, many co-authors with ZFITTER. A definition of that state is complicated. Following German law, any contributor is creator

and thus author. For a commented list of authors, see:
./ZFITTER_authors.pdf
For the exclusion of K. Moenig from the authors list, see
./mail/email-moenig-author-2011-03-15.pdf
Further details may be made available on justified demand.
The list of authors of texts which underwent hidden copy-and-paste is a bit different from the complete ZFITTER or DIZET author lists.
But this plays no crucial role for the question of plagiarism.

C.3 Procuration of the ZFITTER spokesperson and affiliations of authors

I got procurations from the long-term authors [main authors] of ZFITTER to act as spokesperson of the ZFITTER collaboration. The other authors agree also to that status, but it was never strongly formalized. In case of doubt, please contact them. See ZFITTER_authors.pdf. The first written procuration [by email] was given to Tord Riemann by D. Bardin, P. Christova, L. Kalinovskaya, and orally by S. Riemann on 14 March 2011.
I am acting with an explicit, official procuration as representative of ZFITTER since May 2011.
The procuration was demanded by the General Director of DESY [DESY GD] Prof. Helmut Dosch during the period of negotiations around the Gfitter case at DESY, lasting March to July 2011 [extended by the DESY GD till October 2011].
Proof: General Director of DESY
the article published in EPJ C60 (2009) 543 is [an utmost important] part of the negotiations around the Gfitter case. Although this is not necessary, but once it was demanded by the Publisher, I asked the long-term co-authors again for my procuration as representative of ZFITTER in November 2011:
See:
- Prof. Akhundov, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia and Azerbaijan Academy of Sciences, Baku, Aserbaidshan
./mail/procuration-from-Akhundov-2011-11-08.pdf
- Prof. Dmitry Bardin, JINR, Dubna, Russia
- Prof. Alexander Olshevskiy, JINR, Dubna, Russia
- Dr. Lidia Kalinovskaya, JINR, Dubna, Russia
- Dr. Andrej Arbuzov, JINR, Dubna, Russia
- Prof. Pena Christova, JINR, Dubna, Russia and Univ. of Shoumen, Bulgaria
./mail/procuration-from-jinr-2011-11-01.pdf
- Dr. Sabine Riemann, DESY
./mail/procuration-from-SabineRiemann-2011-11-27.pdf

The other authors involved,
Dr. M. Awramik,
Prof. M. Czakon,
Prof. A. Freitas,
Prof. M. Gruenewald,
Prof. M. Jack
follow the Gfitter case with interest. They were actively joined to the ZFITTER project for a limited time around 2005 [M. Awramik, M. Czakon, A. Freitas, M. Gruenewald] or left the research field [M. Awramik, M. Jack].

If some action is undertaken which demands their interference, they will spell this out.

Their emails or procuration issues are available on request if there is a justified interest.[8]

Affiliations:
The Publisher demanded a complete, confirmed by the employers, list of the employers during work at ZFITTER from all authors, including also the potential transfer of legal rights according to national laws.
We are not willing to deliver that list because it plays no role for the investigation by Springer.

The main authors were hired during work on the specific software parts of ZFITTER's Standard Model library which underwent the hidden copy-paste:
- International research center JINR Dubna, Soviet Union [later Russia]
- Azerbaijan Academy of Sciences, Baku, Aserbaidshan
- Univ. of Shoumen, Bulgaria.

During work on the two latex texts which underwent the hidden copy-paste:
- International research center JINR Dubna, Soviet Union [later Russia]
- DESY, Zeuthen

Further, one co-author did part of the work without affiliation.

Work on the ZFITTER publications and ZFITTER support were also performed with the affiliation of DESY.

[8]There are persons who claim that one or the other of the ZFITTER collaborateurs does not support or join with interest the activities of the ZFITTER spokesperson. I have contacted all of them after 14 Dec 2011 and may say that such claims are not correct. More details are available on demand.

D Copyright statement

Contact: tordriemann@googlemail.com

For the investigations at Springer, we expect that the editors Dr. A. Hoecker (CERN, corresponding author of the article published in EPJ C60 (2009) 543, Prof. J. Mnich (DESY Director for Particle Physics), Dr. G. Weiglein (DESY, Leading Scientist, Theory Group) will not be made familiar with the material collected here.

For Dr. Hoecker, the reason is evident: The complaint is directed against his article.

Prof. Mnich defends the approach of the Gfitter group and tries to influence the investigations around the case. Among other measures he forbids the ZFITTER spokesperson to communicate his opinions and findings to persons or institutions outside DESY ((first 9 March 2011, again 14 Dec 2011).

Dr. Weiglein supports the approach of the Gfitter group without knowing facts sufficiently well and tries to influence the investigations around the case.