

State of HARP: View of the CERN–Dubna–Protvino Analysis Group

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The root of the conflict in HARP is a disagreement that arose after the completion of data taking, in early 2003, between the then spokesperson (F. Dydak) and the coordinators for software (S. Giani) and data analysis (J.J. Gomez Cadenas) on priorities, method and efficiency of analysis work. The latter's uncompromising determination to impose their style of work led to a bitter dispute and a divisive 55 : 53 election of a new HARP Management.

The first decisive incident for what followed, was the 2003 Status Report to the SPSC [1] that was submitted *a few days only* after the hostile takeover in July 2003. The new HARP Management chose to ignore entirely our groundbreaking work on TPC distortions [2, 3] and TPC crosstalk [4] which had been presented to the Collaboration and had been carefully documented in three (then still) 'official' HARP memos. For us, this incident was an unjustifiable frontal attack that left no doubt on the intentions of the new Management.

The second decisive incident was the flood of scientifically untenable and personally insulting emails (see e.g. Refs. [5, 6, 7, 8, 9, 10, 11]) after the announcement of our HARP memo on the 'Generalized Least Squares Fit' [12], and its presentation in an analysis meeting in May 2004 [13]. This incident made it impossible to consider henceforth the presentation of our work to people who were beyond doubt not interested in scientific arguments but only intent on hurting us².

The third decisive incident was the replacement, in May 2004, of J. Wotschack as RPC coordinator, on grounds of factually incorrect and exceptionally unfair accusations [15]; despite having successfully coordinated the RPC design, construction and exploitation for years, not a single word was exchanged with J. Wotschack.

From their first day in office, the new HARP Management showed themselves determined to squash anything that could be seen as acknowledgement that good work for HARP had been made, or was being made, by our group. Rather than attempting wise conflict management and integration, the new Management pursued alienation, polarization and *Ausgrenzung*. Their uncompromising insistence on their ideas on methods and efficiency of analysis work as the exclusively permitted ones left no room for our view that valuable physics results can be achieved in more than one way.

When it became clear one year later that HARP's 2004 Status Report to the SPSC [16] would again entirely ignore our work, our group had no other choice than to ask in June

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²Nevertheless, we stand by our offer of presentations and scientific discussions in a 'neutral setting' as offered in our 'Good will gestures' email of July 2005 [14]

2004 the SPSC and CERN Management for recognition of our work. We stress that this occurred *one full year after* the total boycott of our work by the new HARP Management had begun, and that our separate scientific Report [17] was submitted with the consent of the SPSC Chairman.

The new HARP Management responded with outrageous public scientific and personal defamations and offences:

- In June 2004, denunciatory letter to the CERN DG ³
- In July 2004, ‘plagiarism’, ‘bluff’, ‘superficial analysis’ ‘too low quality for SPSC status report’ [18]
- in July 2004, ‘cannibalism’ etc. etc. etc. [19]
- in September 2004, again no word on our work in the Interim 2004 Report to the SPSC Referee [20]
- in March 2005, ‘...dash ih nam ili net? My ne budem nigde ssylat’sja na nih...’ ⁴
- in June 2005, again no word on our work in the 2005 Status Report to the SPSC [21], on the pretext that we had not presented our work in ‘official’ HARP analysis meetings (significant parts of our work had indeed been presented [13, 22, 23], let alone its documentation in our many HARP memos [24]); this action was the more severe as the SPSC Chairman had requested HARP Management to make sure that *all* work in HARP was to be included in the Status Report to the SPSC
- in July 2005, renewed accusation [25] of ‘plagiarism’ and ‘bluff’ ⁵

In our view, the above list amply justifies why we concluded that the new HARP Management is an unacceptable partner.

Maybe lack of ethical standard is compensated by outstanding scientific standard?

In the recent ‘official’ HARP Memo 05-006 [27], ‘The RPC calibration procedure’ by A. Artamonov, M. Bogomilov, D. Kolev, J. Panman, R. Tsenov and I. Tsukerman, Fig.13 claims a 500 ps timing difference between pions and protons in the HARP RPCs (timing difference, not time-of-flight difference!).

³This letter, written by C. Goessling and J. Panman in the name of the HARP Collaboration, asked the DG for sanctions against one of us; the letter was never made available to the Collaboration, on the hypocritical pretext that ‘harm to a certain HARP Collaboration member must be avoided’; in the context of this letter, we stress that our first contact with the CERN Directorate was *after* this letter was sent, *not before*.

⁴‘...do you give them [the RPC calibration constants] to us or not? We will nowhere make mention of it...’. This demonstration of ethical standard is of particular interest in the light of the new HARP Management’s accusation that it was *us* who committed ‘plagiarism’.

⁵This happened *after* having been shown wrong by a highly reputed computing expert in a neutral CERN arbitration [26]; unable to admit even a blatantly obvious mistake, J. Panman chose to get tangled up in off-scale curlicues by quoting the expert opinion of an unnamed ‘ISO9000 accredited company’; we still do not know the name and address of this company, what precisely is the wording of their ‘expert opinion’, and who paid for this ‘expert opinion’?

This extraordinary result invites a *Gedankenexperiment*.

Consider a sandwich consisting of one HARP RPC plane and one plastic scintillator sheet. It is known that pions and protons have the same timing in the scintillator. By contrast, the HARP RPC plane gives a timing different by 500 ps for pions and protons. If the timing in the scintillator and the RPC is the same - this is a pion. If the timing differs by 500 ps - this is a proton. One gets particle identification from timing without any flight distance. *Sic!*

The two recent ‘official’ HARP memos on TPC distortions [28] and on RPC calibration [27] report results that are intended to compete with results that we had published already many months ago – we cannot but note the extreme care with which any reference to our earlier work, and any comparison with our better results, is avoided.

For us, this behaviour which is convincingly documented in the said two recent HARP memos, is a severe violation of basic principles of scientific work. In this context, we recall what J. Panman wrote in his email of 18 March 2004 [10] to the HARP Collaboration: ‘...*The collaboration reserves the right to apply a “light” refereeing procedure, to make sure that the content [of internal HARP notes] is correct (...), and proper credit and reference is given to work of others...*’. For whom exactly are HARP Management’s ‘rules’ intended?

Any scientifically minded person can and should compare the ‘official’ work on TPC distortions, described in Refs. [29, 28], with our work, described in Refs. [2, 3, 17, 30, 33]; and the ‘official’ work on RPC calibration, described in Ref. [27], with our work, described in Refs. [31, 32, 33].

We know of serious mistakes in the ‘official’ HARP large-angle analysis. We are in the process of documenting them in a ‘WhiteBook’ and thus face an ethical problem: normally, we would feel obliged to inform our colleagues of their mistakes.

But the very same colleagues spared no opportunity to offend us and throw dirt on our work. The very same colleagues had and have free access to our results published in our HARP memos, without ever having made any reference to them – an intentional, conscious and unmistakable demonstration that our work does not exist for them.

After 2 1/2 years of our work, we are more convinced than ever that *our* approach to HARP analysis is scientifically adequate and efficient. The new HARP Management were successful with causing us pains and difficulties, and with wasting resources by duplicating our work. They were not successful with producing comparable, let alone better, results.

Our group’s contributions to HARP are by far too large to consider quitting and relinquishing our intellectual property rights. The new HARP Management failed to unite forces, with the results that we have ‘One HARP data set, two HARP analysis groups, two lines of HARP publications that employ the TPC and the RPCs’.

We anticipate that our results will be better than ‘official’ results and, of course, we intend to get them published.

References

- [1] Status Report of the HARP Experiment, SPSC Memo CERN-SPSC/2003-024 (SPSC-M-704, August 2003).
- [2] F. Dydak, On distortions of TPC coordinates: inhomogeneities of electric and magnetic field, HARP Memo 03-001 (6 June 2003), <http://cern.ch/dydak/TPCdistortions.ps>
- [3] F. Dydak, A. Krasnoperov and Yu. Nefedov, TPC track distortions: correction maps for magnetic and static electric inhomogeneities, HARP Memo 03-002 (30 June 2003), <http://cern.ch/dydak/TPCdistortions2.ps>
- [4] A. De Min, F. Dydak, A. Guskov, A. Krasnoperov, Yu. Nefedov and A. Zhemchugov, TPC cross-talk correction: CERN-Dubna-Milano algorithm and results, HARP Memo 03-003 (6 July 2003), <http://cern.ch/dydak/crosstalk3.ps>
- [5] S. Borghi, email of 15.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Borghi.email.150304>: *'...The mathematics formalism becomes un-useful when the initial hypotheses on the error are wrong...'*
Comment: we still do not understand why a generic mathematical formalism is invalidated when in a mere illustration randomly generated errors are used and not realistic HARP TPC errors.
- [6] G. Catanesi, email of 16.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Catanesi.email.160304>: *'...before reinventing the wheel n times...'*
Comment: the claims in this email are in complete contradiction to the findings of a neutral computing expert.
- [7] J.J. Gomez Cadenas, email of 16.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Gomez.email.160304>: *'I just wanted to add my full support to your [G. Catanesi's] arguments...'*
No comment needed.
- [8] S. Giani, email of 17.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Giani.email.170304>: *'Should senior authors compete with PhD students and post-docs in the collaboration ?...'*
No comment needed.
- [9] S. Borghi, email of 18.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Borghi.email.180304>: *'...if the picture is only illustrative, you are missing in the memo the formula and the values by which you fill the errors. This seems a bit ridiculous, isn't it ?...'*
Same comment as for the author's first email of 15.3.2004.
- [10] J. Panman, email of 18.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Panman.email.180304>: *'...non-negligible amounts of resources were spent to produce/modify the software without discussion in the collaboration, apparently without improvement of the performance of our software.'*

Thus it can be demonstrated that these resources have been wasted...'

No comment needed.

- [11] V. Grichine, email of 19.3.2004 to the HARP Collaboration, <http://cern.ch/dydak/Grichine.email.190304>: '*...but always with correct mathematics !...*'
Comment: we are still waiting that the author points out an error in our mathematics.
- [12] F. Dydak and Yu. Nefedov, TPC Track Reconstruction: Generalized Least Squares Fit, HARP Memo 04-002 (10 March 2004), <http://cern.ch/dydak/GeneralizedLSF.ps>
- [13] F. Dydak and Yu. Nefedov, 'Generalized Least Squares Fit', presented in the TPC Analysis Meeting of 18 May 2004.
- [14] F. Dydak, email of 18.7.2005 to the HARP Collaboration, <http://cern.ch/dydak/Goodwill.email.180705>
- [15] Minutes of the HARP Collaboration Board meeting of 28 May 2004: '*...The CB notes that no calibration of the RPC is available and the understanding of its physics performance is still insufficient...*'.
- [16] Status Report of the HARP Experiment July 2004, SPSC Memo CERN-SPSC-2004-018 (SPSC-M-717, 24 June 2004).
- [17] V. Ammosov, G. Chelkov, F. Dydak and J. Wotschack, Memorandum to the SPSC, CERN-SPSC/2004-021 (SPSC/M-719, 6 July, 2004) <http://cern.ch/dydak/MemotoSPSC.060704.ps>
- [18] J. Panman, email of 7.7.2004 to the HARP Collaboration, <http://cern.ch/dydak/Panman.email.070704>
- [19] Memorandum to the SPSC chairman by the HARP Collaboration (2 July 2004), also available at <http://cern.ch/dydak/MemotoSPSC.020704.pdf> and <http://cern.ch/dydak/MemotoSPSC.Att.020704.pdf>
Comment: this Memorandum represents the lowest level in official documents that we have seen in our careers.
- [20] Performance of the HARP large angle detectors, Report to the SPSC referee by the HARP Collaboration (2 September 2004), also available at <http://cern.ch/dydak/InterimMemoSept2004.pdf>
- [21] Status Report of the HARP Experiment July 2005, SPSC Memo CERN-SPSC-2005-023 (SPSC-M-737, 27 June 2005).
- [22] M. Gostkin and A. Zhemchugov, 'Update of 1.5 GeV beam TOF study', presented in the Analysis meeting of 12 February 2004; A. De Min *et al.*, 'Water data analysis: Data reduction from beam and ITC info', presented in the Collaboration Meeting of 17 February 2004; 'CERN-Dubna-Milano algorithm for TPC crosstalk correction', presented *ibidem*.

- [23] I. Boyko *et al.*, ‘RPC Precise Time Calibration’, presented in the Collaboration meeting of 9.3.2005; Yu. Nefedov *et al.*, ‘TPC: Static Distortion Corrections’, presented *ibidem*.
Comment: these presentations were made on suggestion of, and in the presence of, CERN Management.
- [24] Bibliography of the CERN-Dubna-Protvino Analysis Group, <http://cern.ch/dydak/LAbibliography.pdf>
- [25] J. Panman, email of 11.7.2005 to the HARP Collaboration, <http://cern.ch/dydak/Panman.email.110705>
- [26] D. Schlatter, email of 23.8.2005 to the HARP Collaboration Board members, <http://cern.ch/dydak/Schlatter.email.230805>
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- [30] I. Boyko *et al.*, TPC track distortions III: *fiat lux*, HARP Memo 05-101 (17 January 2005), <http://cern.ch/dydak/TPCdistortions3.pdf>
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- [33] Report of the CERN–Dubna–Protvino group on the analysis of HARP large-angle data (21 June 2005), <http://cern.ch/dydak/2005reporttoSPSC.pdf>