

Thirty Ninth Meeting of the Hipparcos Science Team

ESTEC, 9–10 October 1996

Attendance:

HST: Dr U. Bastian, Dr M. Crézé, Dr M. Grenon, Prof. E. Høg, Prof. J. Kovalevsky, Dr F. van Leeuwen, Dr L. Lindegren, Dr F. Mignard, Mr C.A. Murray, Mr R.S. Le Poole, Dr H. Schrijver, Dr C. Turon

ESTEC: Dr M.A.C. Perryman

Not attending: Prof. P.L. Bernacca, Prof. F. Donati, Prof. M. Grewing Dr H. van der Marel,

The agenda attached was adopted.

Actions agreed at the meeting are included at the end of the Minutes.

1 Overview of Status and Schedule

Perryman reported briefly on the intensive activities that had been carried out since the last HST meeting (catalogue merging, photometry, Tycho, and data base verifications), leading up to the finalisation of the Hipparcos and Tycho Catalogues on 8 August 1996, and the despatch of the data to the 1992 immediately afterwards. The distribution of these data (around 700 000 objects related to nearly 200 proposals) had been executed smoothly and efficiently in Meudon, and Perryman asked Turon to convey the HST's gratitude to Danielle Morin who undertook this work. The draft of the Volume 1 documentation had also been finalised and distributed, and very few errors had been noted.

2 Feedback from Users of Catalogue Data

An error on the double star annex (Part C) had been noted by Lindegren, explained by Mignard, corrected by Lindegren, and implemented by Schrijver. The effect on the separations was small, and no special warning would be needed for users.

With this update, the Hipparcos and Tycho Catalogues are confirmed as finalised. No further changes would be made. Updated solutions prepared by CERGA (after examination of the 263 missing cases, 32 are recovered with good solutions, 15 with poor solutions; of the 1000 or so stochastic solutions, 99 with parallax error larger than 10 mas were recovered) would be handled exclusively by Notes in the main catalogue; no annex table, erratum, or WWW page updates would be coordinated. Any improvements proposed by users would be left to propagate into the literature, and perhaps some group would coordinate a central update at a future stage. It was agreed that this would not be coordinated by the Hipparcos Science Team.

Concerning other validation aspects: (i) DMSA rotation would be checked by HS/LL; DMSA/O is not affected by rotation. DMSA/O and DMSA/V had been checked by ARI; (iii) RGC data would be checked by HS and LL (positions and HIP numbers should be identical to main catalogue); transit data rotation will be checked by LL; (iv) one or more solar system objects would be checked by LL; (v) correlation coefficient orders had been checked by LL, FM, and HS; (vi) double stars: no further concerns had been expressed by Le Poole or Dommagnet concerning relationship between DMSA/C and ground-based observations—DMSA/C therefore also considered as fully acceptable (see Action 39.1).

The machine-readable catalogue would be ordered lexically by Field H3 (right ascension).

Field labels would be added for machine-readable fields only.

3 Feedback from Users and Updates on Volume 1

After appropriate discussions, it was agreed that significant revisions in order would not be made. Detailed changes were discussed, and would be implemented by Perryman in advance of a new draft release to accompany data to be sent out to 1982 proposers. Only one update to contributors (Canuto) was approved. Other suggested additions to the Double and Multiple Star task (proposed by Bernacca) were rejected by Mignard/Kovalevsky according to the principle of listing 'major contributors' at this level. Donati had suggested that the SAG names were listed, but there was little enthusiasm for this. Various other detailed changes were discussed and would be implemented. Kovalevsky reported that the IAU RFWG had not felt competent to consider the question of the galactic/equatorial ICRS transformation proposed by Lindegren in the limited time available (2 months). Perryman considered that a prescription was needed, and HST agreed to include it anyway.

For other inputs required, see Actions 39.2–4

4 Data Release to 1982 Proposers

It was discussed whether December 1996/January 1997 was most appropriate for the data release to 1982 proposers. After a short discussion of the relative merits of each, it was agreed that Turon would warn PIs of the data availability in early December, and the data would be released from Meudon as soon into the New Year as would be possible. Completion of data release was therefore expected by mid-January.

5 Data Base Activities

Schrijver reported on the work ongoing, mostly related to the inclusion of notes, and preparation of the data for publication. Any additions to the notes are required by 25 October (Action 39.5).

The Tycho Catalogue would not be implemented in full in Utrecht, due to limited resources and time. Nobody considered this was a critical issue.

Schrijver was waiting for data for fields H71–74 (Action 39.6)

6 Tables for Part 3 of Volume 1

Schrijver reported on the status: Table 1 would contain only the objects in HIP which were not those associated with cross-identification data in HIC; for Tables 2,3,4,5,6 Turon and van Leeuwen will provide finalised data, and an updated description for the documentation (Actions 39.7–8).

Newly assigned variable star names are still outstanding. Grenon will pursue with Moscow, considering incentive payment (if appropriate) to get the work completed by 30 November (see Action 39.9). After this date, no new names can be considered for the variable star tables, for the ASCII CD-ROM, for Celestia, and for the Millennium Atlas.

7 Plots for Part 4 of Volume 1

The distribution of work was agreed as follows: 4.1.1–31 (Mignard for sky plots, Schrijver for histograms); 4.1.32–35 (Schrijver); 4.2 (Høg); 4.3.1–5 (Høg); 4.3.6–9 (Schrijver); 4.3.10–13 (Schrijver); 4.3.14–17 (Høg); 4.3.18–20 (Mignard); 4.4.1–13 (Schrijver). All inputs would be delivered to Schrijver before the end of the year. Providers would decide on the information that would be presented, whether presently identified plots would be suppressed, whether others would be added. Schrijver would unify and propose a layout, with a 2-3 line figure caption. Extended captions would be collected together at the start of the section. Overlap with plots used in Volumes 3–4 were considered acceptable.

8 Status of Annexes

All finalised, or actions agreed for finalisation.

9 Solar System Objects

Kovalevsky will review Section 2.7 (Action 39.11). Lindegren will verify rotation (Action 39.1).

10 Celestia

Turon reported on status, made a proposal for opening screen information (three panels from which credits would appear), distributed copies of the test interface provided for PC, and reported on progress on translations, and plans for the help files and documentation.

11 ASCII CD-ROMs

Perryman reported on progress, and the following agreements were reached: (i) documentation would appear on disc 1 as PS files (Sections 1.0 to 2.10); (ii) light curves and charts would be included in PS format (see Action 39.12); (iii) index files would be provided as in Action 39.13;

12 Sky & Telescope Millennium Atlas

At the end of the meeting, a proof of the colour and black/white Millennium Atlas charts were received; the black/white charts would be circulated to interested HST members for comments. Plans were proceeding well with the production. The goals are still to include the black/white version as Volumes 14–16, with the colour version printed as the Millennium Atlas by Sky Publishing Corporation with Sinnott and Perryman as front page authors, with additional authors on inside title page to be decided.

13 Venice Symposium

Perryman reported on progress. About 200 people had responded to the first announcement. Bernacca had been working intensively on the local arrangements. A second announcement was in preparation and would go out to those that expressed an interest (only) later in October.

14 Printed Catalogue

Plans were in hand for preparation (Schrijver), printing (Perryman, printer tests were being conducted), and publication (ESTEC publication department). Perryman circulated the draft flyer which would be sent out in two weeks, and described the procedure that would be used to solicit orders, based on an address list of about 500 libraries and 800 individuals which had been compiled by Perryman, and reviewed earlier in the year by the HST (including those designated to receive free copies). Drafts of the three letters to accompany the flyers were circulated by Perryman for comments. Orders would be requested by 15 January. Perryman stressed ESA's intention not to undertake a second print run of Volumes 1-16 (a second run of Volume 1+17, and Celestia, would be undertaken if needed). Assuming that an order of 1500 copies was made by 15 January, HST members suggested that the print run should be increased by 30 per cent to account for future possible demand (the PPM run was 800, 500 of which were sold).

Volume 1: as above.

Volume 2: Perryman circulated an advanced draft, with review list, asking for any inputs by 25 October. The volume would then be finalised, and indexed by Perryman. HST left to Perryman's discretion the trade-off between running page numbers and numbers according to section (Action 39.14).

Volume 3: the final chapter layout, and actions needed to complete the texts by 10 December were

agreed. Perryman would unify, and circulate copies before the Christmas vacation (Action 39.15). Perryman would prepare the bibliography; and indexes would be prepared for each volume.

Volume 4: Bastian expected to have a complete draft with Perryman by end November (Action 39.16).

15 Miscellaneous

(a) Perryman had circulated the following data to satisfy time-critical requests, where he had not felt the need to ask the opinion of the HST: (i) additional objects to A. Baglin to be used for the EVRIS satellite target selection (approximately 20 parallaxes); (ii) one object to L. Morrison for a forthcoming asteroid occultation.

(b) Perryman proposed preparing an A&A letter with final Hipparcos Catalogue summary and HR diagram to accompany the catalogue release in mid-1997. This was agreed, and Høg would do the same for the Tycho Catalogue. van Leeuwen would prepare papers on the photometry in due course.

(c) Høg requested HST approval to circulate subsets of the Tycho data, at his discretion, in advance of the catalogue release date. HST members had no objection to this, assuming it had the support of the rest of TDAC. Perryman suggested that data would only be released for specific programmes (no Form A would be required), so that TDAC members could benefit from early data exploitation (as co-I's).

(d) Perryman had been asked to supply data for Geminga position determination (by Bignami). Hipparcos/Tycho objects within a one degree field would be required, and this appeared to be good PR for Hipparcos, while avoiding overlap with other proposals. HST agreed to this proposal.

(e) Turon reported on invitations to speak at various conferences. It was agreed that she should accept where she considered appropriate, then pass on unfulfilled requests to other HST members. Appropriate discretion should be used in showing/publishing new material.

(f) Hipparcos/Tycho Catalogues at stellar data centres. Perryman was in contact with F. Ochsenbein at CDS, and they were preparing the FITS interface files for the ASCII CD-ROM together. No problems were foreseen.

16 Next Meetings

It was not considered necessary to hold a full HST meeting in November/December, and ad hoc meetings would be held if necessary to finalise details of the documentation or the CD-ROMs. A provisional date of 16-17 January 1997 (ESTEC) was set aside in case a meeting would be needed.

M.A.C. Perryman, 10 October 1995

Actions

- ✓ 39.1. Lindegren/Schrijver to verify rotation on data (see Item 2 for details).
- ✓ 39.2. van Leeuwen/Grenon to provide text on aging correction.
- ✓ 39.3. Grenon to clarify use of 'reduced proper motion'.
- ✓ 39.4. Grenon to provide $H_p - V$ versus $B - V$ (explanatory text and figure) for inclusion in Section 1.3 (Appendix 4).
- ✓ 39.5. Provide any additional notes by 25 October (FvL, FM, LL, MG, CT).
- ✓ 39.6. Turon to provide data for H71–74 (via D. Morin) to Schrijver.
- ✓ 39.7. Turon to provide final to (to Schrijver) and final text for documentation (to Perryman) for Tables 3.2, 3.3, 3.4 and 3.6.
- ✓ 39.8. van Leeuwen to provide final text for documentation (to Perryman) for Table 3.5.
- ✓ 39.9. Grenon to provide final variable star names, via Moscow, for the 3000 new variable stars, by 30 November.
- ✓ 39.10. Mignard/Høg: all inputs on Section 4 plots to Schrijver by end 1996.
- ✓ 39.11. Kovalevsky to review Section 2.7 (solar system objects).
- ✓ 39.12. Grenon to provide breakdown of identification charts and light curves PS files with interrogation index files by 30 November; otherwise light curves and charts would go onto ASCII CD-ROMs in blocks, as at present.
- ✓ 39.13. Index files for ASCII CD-ROMs to be provided by HS (including HEPA), except for Tycho (EH); TEPA (VG); solar system data (DH); transit data file (LL); RGC data (FA).
- ✓ 39.14. HST inputs on designated chapters of Volume 2 (satellite operation); Le Poole to identify omissions. Due date 25 October.
- ✓ 39.15. Coordinators (FvL, MP, LL, FM) for Volume 3 to finalise texts to Perryman by 10 December.
- ✓ 39.16. Bastian to finalise texts for Volume 4 to Perryman by 30 November.

From Previous Meeting(s)

38.17 Grenon to prepare, by the end of 1995, a precise contract with the Russian colleagues who will allocate variable star names to the new variable stars discovered by Hipparcos. This will include precisions on the schedule and will fix the conditions of publications (**not** before the publication of the HIP).