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The Digital Archive of the International Halley Watch

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The International Halley Watch was established to coordinate, collect, archive, and distribute the scientific data from Comet P/Halley that would be obtained from both the ground and space. This paper describes one of the end products of that effort, namely the IHW Digital Archive.

The IHW Digital Archive consists of 26 CD-ROMs containing over 32 giga bytes of data from the 9 IHW disciplines as well as data from the 5 spacecraft missions flown to comet P/Halley and P/Giacobini-Zinner. The total archive contains over 50,000 observations by 1,500 observers from at least 40 countries. The first 24 CDs, which are currently available, contain data from the 9 IHW disciplines. The two remaining CDs will have the spacecraft data and should be available within the next year. A test CD-ROM of these data has been created and is currently under review.

The distribution of the data within the first 24 CDs is such that 5 of the discs, "the mixed discs", contain information from all 9 IHW disciplines. Eighteen of the discs, "the compressed LSPN discs", contain the digitized imagery from the Large-Scale Phenomena Network. One disc, "the trial run disc", contains data collected from comets P/Crommelin and P/Giacobini-Zinner. Most all of the data is stored in FITS format and has PDS labels associated with it. In general the data directories and file structures are time ordered.

Besides the actual data, the IHW Digital Archive contains an extensive amount of metadata: indices, ephemerides, directory structures, documentation and software. The original data was obtained by a large, diverse group of professional and amateur astronomers who in turn provided the data to the 9 IHW discipline teams. These discipline teams organized the data into standard formats and forwarded them to the Lead Center at JPL. The Lead Center went through an extensive verification process and generated the first set of metadata. The verification process and the generation of more metadata was continued at NASA Goddard Space Flight Center and the CD-ROM premaster tapes were created there. The CD-ROMs were manufactured by Digital Audio Disc Corporation under contract to NASA-Goddard. The digital archive will be distributed to those contributors of comet data who request it, as well numerous astronomical institutions world wide. Additional assistance and distribution will be available through the Small Bodies Node of the Planetary Data System.

The generation of this digital archive was clearly an international effort. It could not have been done without the cooperation of many people and institutions too numerous to mention here. Refer to the ACKNWLDG.TXT file in the root directory and PREFACE.TXT file in the \DOCUMENT\APPENDIX\ directory on disk 23 of the digital archive for a complete list of credits. The history and structure of the IHW is detailed in the The Comet Halley Archive Summary Volume (Z. Sekanina, editor, NASA/JPL 400-450 8/91).