IR #59
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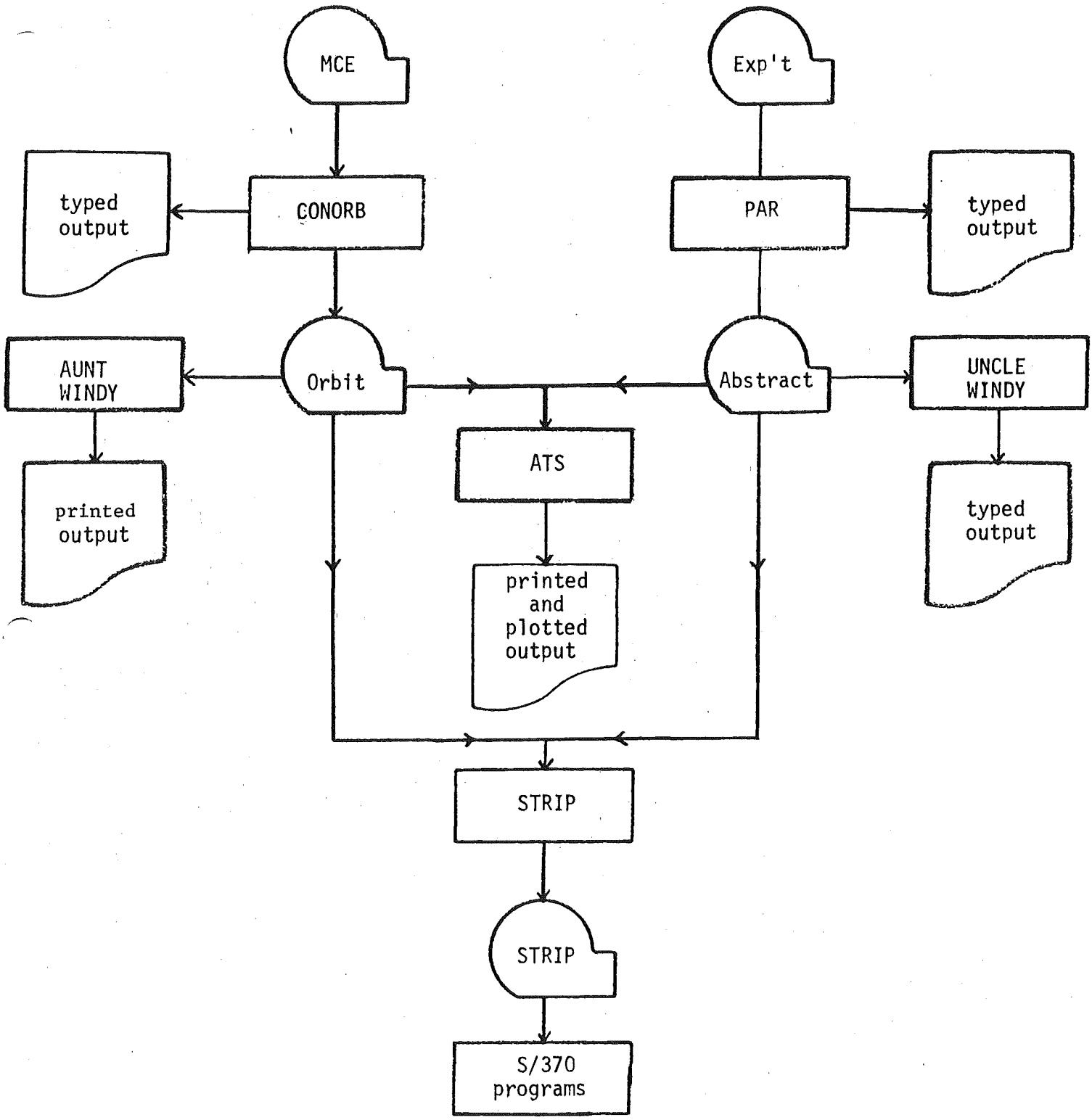
General Overview of IMP Data Processing

The Space Radiation Laboratory receives IMP data on mag tapes. These tapes are processed as illustrated in the block diagram shown in Figure 1. Briefly, the SRL receives MCE and Experiment tapes. These tapes are processed by the programs CONORB and PAR to produce Orbit and Abstract tapes. The Orbit and Abstract tapes are processed by ATS to produce rate plots, event summaries, etc. The user typically uses the ATS output to decide which time periods are to be subjected to further analysis using AUNT WINDY, UNCLE WINDY, and STRIP.

Table 1 lists describes in an abbreviated fashion the terms (programs and data sets) presented in Figure 1. Table 2 lists available documentation.



IMP DATA PROCESSING DIAGRAM

Figure 1

Table 1. Data Processing Terms

MCE	- Multi-Coordinate Ephemeris tapes - numbered HMC nnn or JMC nnn - tapes are 7T - floating point numbers are IBM 7094 format - contains attitude, orbit, etc. data - described in Internal Report #48 - 1 tape per ~ 4-day run
Orbit tapes	- sometimes mnemonicized to RBIT - numbered HRC nnn or JRC nnn - 7T - floating point numbers are DEC PTS FPP-11 format - contains MCE data - described in IR #48 - 1 tape per 20 MCE tapes
CONORB	- CONvert ORBit tapes - described in IR #48 - optional TTY output
Exp't Tapes	- numbered HXP nnn (sequential by order of receipt) or JX nnnn (where nnnn is run and tape number) - 7T - 2 tapes per run - contains raw exp't data - described in IR #43
PAR	- Produce Abstract Record - Described in IR #52 - XDUMP subroutine for optional TTY output
Abstract tape	- numbered HABnnn, HACnnn, HADnnn, HAEnnn or JAEnnn where B,C,D, & E imply version of PAR. - 9T - contains exp't data, decoded - normally 1 per 2 runs - described in IR #52
AUNT, UNCLE WINDY	- mnemonic refers to "long-windedness" of program output - dumps selected portions of tape on TTY - no good writeup available

Table 1. Data Processing Terms (cont'd..)

ATS	- Abstract Tape Summary - Described in IR #58
STRIP	- strips selected data from abstract tape - described in IR #49
STRIP tape	- 7T S/370 TRTCH=C format - selected data from Abstract & Orbit tapes - described in IR #49

Table 2. IMP Documentation

IR #41:	IMP Detector Tests
43:	IMP-H Experiment Tape Data Format
45:	Geometrical Factors for IMP-H with Addenda: Detector Specifications and Geometrical Factors for IMP-J
46:	SPLINT
47:	Guide to IMP-H Integration and Quick-Look Printouts
48:	CONORB
49:	STRIP Program User's Guide
50:	Data Description-Caltech Energetic Particles Experiment on IMP's H and J
52:	Abstraction of IMP Tapes
53:	Calibrations of the Electron Response of the IMP-H Electron Isotope Spectrometer
54:	Gamma-Ray Calibrations of the IMP-H Electron Isotope Spectrometer
55:	Positron Detection with the Electron Isotope Spectrometer
56:	Electronic Calibration of the IMP-H & J Electron Isotope Spectrometer
58:	ATS
59:	(This Report) General Overview of IMP Data Processing

Description of Tandem calibrations and Bevatron calibrations are to be written.