

Viking seismology data unscrambled, decoded and converted to ASCII

File name: vusa.ttff, where tt and ff refer to the tape and file numbers, respectively, of the original VUS tape file.

Each group of data starts with a header line, identified by character H on the first column. This line contains, from left to right, (1) record number, (2) year, (3) day of the year, (4) command status in hex, (5) mode, and (6) the number of data lines to follow. The command status, given as a 22-bit bit string, is defined in Table II of JPL document PD7400072. The mode is identified by character N, E or H for normal mode, event mode and high-data-rate mode, respectively.

The header line is followed by a GCSC time line, which starts with a character G on the first column. This line contains, from left to right, (1) GCSC, (2) SOL and (3-5) LLT in hours, minutes, and seconds.

The GCSC to LLT conversion was done using formulae that resemble as close as possible to the ones used during the Viking mission. However, since the conversion formulae used during the mission were based on GCSC drift rates derived from limited data as they became available, some times they produced steps in LLT when the rate changed. I have updated the rates slightly to avoid time steps. The result is very close to but not exactly the same as what we had during the mission, and thus one needs to be aware of this fact when these LLT values are used.

The data that follow are listed as follows:

For mode N and H, x, y and z amplitudes are listed from left to right.

For mode E, the amplitude and number of zero crossings for each of the x, y and z components are listed from left to right.