PROPOSED RECOMMENDATION CCTF (2006)
Improvement to GNSS time transfer

The Consultative Committee for Time and Frequency

Considering that

data from the GPS satellites play an important role in time and frequency transfer,

other satellite systems such as Galileo and GLONASS will become increasingly important to time and frequency transfer in the future,

present uncertainties in the calibration of equipment at the timing laboratories place a significant limitation on international time transfer in general and on the accuracy of the computation of TAI in particular.

Recommends that

the technical directives for reporting data from these systems be modified to support including data from different systems in the same file, as described in the appendix,

the timing laboratories work to improve the calibration of time transfer equipment, and to reduce the source of the type-B uncertainties of the receiving equipment including:

equipment that minimizes the impact of fluctuations in the ambient temperature and humidity,

antennas and cables which minimize the impact of multipath reflections and similar effects.

Appendix:

The minimal change recommended at this time is to add a single letter following the PRN number in the column which is now a space. This single upper case alphabetic character will identify the type of satellite system. The letter will conform to the IGS specifications. If there is no IGS assignment one will be specified by the CGGTTS in consultation with the BIPM. Specifically:

G or space for GPS
E for Galileo
S for a geostationary augmentation system
R for GLONASS