SOME TIME TRANSFER EXPERIENCES WITH INDIAN EXPERIMENTAL SATELLITE APPLE

B. S. Mathur, P. Banerjee, A. sen Gupta, Mithlesh Saxena
A. K. Hanjura and A. K. Suri
National Physical Laboratory, New Delhi, India

and

C. L. Jain, K. Kumar, M. R. Sivaraman and Sheela
Space Applications Centre,
Ahmedabad, India

ABSTRACT

Clock synchronization and Time Dissemination Experiments in India by means of satellite Symphonie were earlier reported by this group in 10th, 11th and 12th PTTI Meetings. In this paper we report some time transfer experiences with Indian Experimental Satellite APPLE. The satellite APPLE is not stable in its geostationary orbit and its position varies over a large range as compared to Symphonie. In view of this, accuracies and precision achieved are not as good as those reported earlier. But it gave us an opportunity to try out new techniques not attempted earlier with satellite Symphonie, such as active TV technique, transmission of satellite position data along with time code, time signal monitoring with direct reception sets and satellite ranging from three earth stations. Using ranging data obtained from clock synchronization experiments, orbital elements of APPLE were also computed.

These experiences with APPLE will be quite useful in terms of Indian efforts to provide time dissemination services via Indian Domestic Satellite INSAT on an operational basis.

(ABSTRACT ONLY)

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