

Washington Correlator

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Abstract

This report summarizes the activities of the Washington Correlator for the year 2003. The Washington Correlator provides 136 hours of processing per week, primarily supporting Earth Orientation and astrometric observations. In 2003 the major programs supported includes the IVS-R4, IVS-INT, IVS-R1, IVS-T and CRF. Four Mark 5 playbacks were added.

1. Introduction

The Washington Correlator (WACO) is located at and staffed by the U. S. Naval Observatory (USNO) in Washington, DC, USA. The correlator is sponsored and funded by the National Earth Orientation Service (NEOS) which is a joint effort of the USNO and NASA. Dedicated to processing geodetic and astrometric VLBI observations, the facility spent 100 percent of its time on these experiments. All of the weekly IVS-R4 sessions, all of the daily intensives, and several IVS-R1 sessions were processed at WACO. The remaining time was spent on reference frame and astrometry sessions. The facility houses a Mark 4 Correlator.

2. Correlator Operations

The two Washington Correlator Mark 5P (prototype) units were upgraded to Mark 5As in April. Four additional Mark 5A playbacks were added in October. At the end of the year, the Washington Correlator had 6 Mark 5A playbacks on-line. The Correlator Facility also conditioned 68 "A" 8-packs.

During the year, the main theme was the increase in Mark 5 operational experience. By November, up to 4 stations in IVS experiments were recording with the Mark 5s using 8-packs of various sizes. The Intensives continued to use single disks and celebrated the first full year of Mark 5 Intensives in November. The increase in the use of Mark 5 for recordings had a direct impact on the processing factors. Due to the "perfect" playback, lack of tape positioning, and the need for less operator intervention, the average processing factor dropped from 3.9 to 1.5. Unfortunately, this will not allow more experiments to be processed by the correlator because staff shortages will prohibit setup and review.

The correlator facility operates 136 hours per week, and is fully loaded at this level.

Table 1 lists the experiments processed during 2003.

3. Staff

The Washington Correlator is under the management and scientific direction of the Earth Orientation Department of the U.S. Naval Observatory. USNO personnel continue to be responsible for overseeing the scheduling and processing. During the period covered by this report, a private contractor, NVI, Inc., supplied a contract manager and correlator operators. Table 2 lists staff and their duties.

Table 1. Experiments processed during 2003

52	IVS-R4 experiments
1	CONT
14	CRF (Celestial Reference Frame)
6	IVS-R1
3	APSG (Asia Pacific)
3	OHIGGINS
3	R&D
3	SURVEY
5	IVS-T (Terrestrial Reference Frame)
200	Intensives

Table 2. Staff

Staff	Duties
Dr. Kerry Kingham (USNO)	VLBI Correlator Project Scientist, responsible for the scientific integrity of correlated data, hardware and software maintenance and upgrades, and computer system administration. Also responsible for process scheduling and evaluation of correlated data. Oversees session setups and prepasses and evaluates station performance.
Bruce Thornton (NVI)	Operations Manager, responsible for correlator operator scheduling, daily operations, and tape shipping. Intensive processing and review.
Harvis Macon (NVI)	Lead Correlator operator, NEOS-A and Intensive setups.
Roxanne Watkins (NVI)	Tape Librarian
Dwayne Sneed (NVI)	Correlator Operator
Joseph Granderson (NVI)	Correlator Operator
Kenneth Potts (NVI)	Correlator Operator
Steven Springer (NVI)	Part-time Correlator Operator
Lawrence Dorsey (NVI)	Part-time Correlator Operator
Valerie Bockarie (NVI)	Part-time Correlator Operator

4. Outlook

The Washington Correlator expects to add more Mark 5 playback units to the correlator in the next year. The increased use of Mark 5 should increase the efficiency and and quality of the processing.