Washington Correlator

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Abstract

This report summarizes the activities of the Washington Correlator for the year 2006. The Washington Correlator provides up to 80 hours of processing per week, primarily supporting Earth Orientation and astrometric observations. In 2006 the major programs supported include the IVS-R4, IVS-INT, IVS-R1, IVS-T, and CRF and CRFD experiments.

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 terrestrial reference frame and astrometry sessions. The facility houses a Mark IV Correlator.

Figure 1. The right half of WACO showing 4 Mark 5A units (far right), legacy tape drives, the operator's console, and the central processor (left).

2. Correlator Operations

The Washington Correlator continues to operate 80 hours per week with an operator on duty. This year, the correlator has functioned well unattended, allowing another 24 hours per week, on average, of extra processing. This has also decreased the time it takes to process an R4 or R1 by one day.

The correlator staff has been trained in the testing and repair of Mark 5 modules. Not only were failed disks replaced, but some modules were upgraded by the replacement of small disks with larger ones.

The Intensive observations from Wettzell continue to be electronically transferred to the Washington area and transported to the correlator. This operation saves 1 to 2 days in shipping time.

Table 1 lists the experiments processed during 2006.

Table 1. Experiments processed during 2006

52	IVS-R4 experiments + 2 CONT days as Rapids
10	CRF (Celestial Reference Frame)
7	IVS-R1
3	APSG (Asia Pacific)
2	IVS-T (Terrestrial Reference Frame)
223	Intensives
16	Kk-Sv-Wz Intensives

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. An addition to the staffing this year is David Hall who is filling the post last held by Jim Martin. Unfortunately, long time correlator operator Joe Granderson had to retire due to health issues. Brian Luzum is spending most of his time working on the Earth Orientation combinations due to staff shortages in the Earth Orientation Department. He is still available to help with post–processing analysis when necessary.

Figure 2. Kenneth Potts, Firew Waktole and Bruce Thornton keep an eye on a prepass.

Table 2 lists staff and their duties.

Table 2. Staff

Staff	**Duties**
Dr. Kerry Kingham (USNO)	VLBI Correlator Project Scientist
David Hall (USNO)	VLBI Correlator Project Manager
Dr. Brian Luzum (USNO)	VLBI Correlator Scientist (part time)
Bruce Thornton (NVI)	Operations Manager
Harvis Macon (NVI)	Lead Correlator operator
Roxanne Inniss (NVI)	Media Librarian
Kenneth Potts (NVI)	Correlator Operator
Firew Waktole (NVI)	Correlator Operator

4. Outlook

The Washington Correlator plans to upgrade the Mark 5A playbacks to Mark 5B coordinated with the installation of Mark 5Bs at the Network Stations, and upgrade to a new correlator control computer. It is expected that the number of playbacks available will increase to 10 with the addition of 2 Mark 5B units.