

Canadian VLBI Technology Development Center

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Abstract

The Canadian VLBI Technology Development Center (TDC) is involved in activities related to the realization of VLBI2010.

1. Introduction

The Canadian TDC is a collaborative effort of the National partners interested in the advancement of VLBI technology, namely the Geodetic Survey Division of Natural Resources Canada (GSD/NRCan) and the Dominion Radio Astrophysical Observatory (DRAO) of the Herzberg Institute for Astrophysics of the National Research Council of Canada (DRAO/HIA/NRC).

2. VLBI2010 Committee (V2C)

The Canadian TDC is primarily focused on encouraging the realization of VLBI2010. This is done by Bill Petrachenko of NRCan, who is chairman of the V2C. In collaboration with others, this year's activity focused on the following areas.

- Development of algorithms for processing broadband data.
- Development of FPGA algorithms for VLBI2010 digital back ends.
- Development of specifications for VLBI2010 sub-systems.
- Execution of studies into the nature, impact, and mitigation of Radio Frequency Interference (RFI)
- Development of strategies for the mitigation of the impact of source structure.
- Participation in the VLBI2010 Project Executive Group.

3. DRAO Activities

Under the leadership of Gordon Lacy, designs are complete and fabrication plans in place for a 15-m off-axis Gregorian top-fed composite antenna that is light, stiff, efficient, and cost effective.

Under the leadership of Brent Carlson, correlator development at DRAO is focused on novel designs for the SKA.

Development also progresses in the areas of focal plane arrays and a general purpose high-capacity multi-FPGA signal processing platform.