

# 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, chairman of the V2C, and Toni Searle, both of NRCan. In collaboration with others, this year's activity focused on the following areas:

- Development of algorithms for processing broadband data,
- Application of those algorithms to the processing of broadband data produced by the NASA broadband delay proof-of-concept effort,
- Development of a specification for VLBI2010 total power detection,
- Execution of studies into the nature, impact, and mitigation of Radio Frequency Interference (RFI),
- Execution of studies into the impact on the VLBI2010 broadband system of RFI generated at co-location sites that include the DORIS beacon and SLR aircraft avoidance radar,
- Participation in the VLBI2010 Project Executive Group.

## 3. DRAO Activities

Two prototype 10-m composite antennas that are light, stiff, and cost effective have been developed and tested. Under the leadership of Gordon Lacy, design studies for more efficient designs continue.

Under the leadership of Brent Carlson and Dave Fort, DRAO completed the production of the correlator for the EVLA project. It is one of the most ambitious radio interferometry correlators ever designed. Correlator expertise at DRAO is now being directed toward novel designs for the SKA.