

## GPS satellites as calibrator sources for solar observations with the PBDA

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**Madsen, Felipe; Silva, Jorge; Sawant, Hanumant; Padmanabhan, Janardhan; Cecatto, José; Freitas, Ubiratan**

The use of standard interferometer calibration techniques and calibrator sources is generally not enough to completely and uniquely solve the problem of calibration of solar interferometer data. Because, in the decimetric range, the celestial calibrators are many orders of magnitude fainter than the Sun, it is almost impossible to obtain an accurate amplitude calibration. Phase calibration is possible only through use of different attenuation, that might insert unknown phase errors in the data. A different approach is presented in this work. Attempts have been made to use satellites of the Global Positioning System (GPS) as calibrator sources for solar observations with the Prototype of the Brazilian Decimetric Array (PBDA). The GPS satellites can be regarded as point sources for most of the solar-observing arrays, and have the advantage that their orbits and the power emitted by their transmitters are well known, and the flux on Earth's surface is higher than that of the Quiet Sun at 1575 MHz. These properties led to the suggestion that these satellites should be possible sources for the calibration of solar interferometric observations. We present results of observations of GPS satellites alone and also of solar observations that were calibrated using this scheme during the period from May to September, 2007. The results indicate that the GPS signals are adequate for interferometer calibration, as can be concluded from the solar maps presented.

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