



Inclusion of plasma effects in numerical spacecraft antenna calibration

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Many spacecraft carry sophisticated radio experiments which are designed to increase our understanding of the physics of the plasma, in particular radio and plasma waves, of the solar environment. A key technology of modern space-born radio experiments is the capability of performing goniopolarimetry, i.e. the reconstruction of the state of polarization and the direction of the radio source from the received data. Goniopolarimetry requires the reception properties of the antennas to be known very accurately. We performed several different methods to calibrate the scientific antennas of various spacecraft. In the past we neglected the influence of the surrounding space plasma when performing numerical antenna calibration. Now we are in a position to use simple models to take care of some effects which can be attributed to the plasma. The methods and some corresponding results are presented using the STEREO spacecraft as an example.