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Direction Finding with the Cassini/RPWS/HFR instrument - Methods and Results on the Saturn Kilometric Radiation

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The Cassini/RPWS/HFR instrument is dedicated to the study of the kronian radio emissions in the 3 kHz–16 MHz frequency band. The instrument has direction finding capabilities (i.e. it is possible to extract the direction of arrival, the flux and polarization of an incoming electromagnetic radiation). The different inversions that have been published will be presented. Those inversions have been used on the Cassini/RPWS/HFR data since early 2004, increasing our knowledge of the kronian radio emissions. We will concentrate on the Saturn Kilometric Radiation (SKR) and present its characteristics through statistical analysis of the direction finding results.