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Survey of electrostatic waves in Saturn's magnetosphere

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The brief excursions of the Voyager spacecraft in the Saturn's magnetosphere have revealed that electrostatic emissions were commonly observed, like in the magnetospheres of the Earth and Jupiter. Emissions close to the upper hybrid frequency Fuh and electron cyclotron harmonic (ECH) were found at Saturn during the few days of the encounter with weak intensities and the most intense events located close to the magnetic equator of the planet. The data collected so far by the RPWS instruments in a large range of local time and distance to the planet allow to widely extend these first observations. We present here the results of a survey of electrostatic waves observations, their occurrence, location, spectral characteristics temporal evolution and their possible role in the generation of narrow band electromagnetic emissions.