



From the Earth's ionosphere to the Martian atmosphere - 33 exciting years in the Solar System science (Jean Dominique Cassini Medal Lecture)

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In 1972, when I joined the Finnish Meteorological Institute, I was given the task of organising auroral photography with automatic all-sky cameras recently developed at the institute. This was a timely task since ground-based auroral photographs were needed to understand new observations made by Earth-orbiting magnetospheric satellites. The International Magnetospheric Study (IMS) period in 1976-79 was the peak period utilising ground-based monitoring networks together with satellite observations. Finland was at the focus of these activities due to its favourable geographical location in northern Europe. Magnetometer, radar and all-sky camera networks have since IMS been continuously operated in Northern Europe, Finland being one of the leading players. Some key scientific results of these activities will be reviewed.

In the middle of the 1980s Finland became active in arranging its relations to European space agencies. In 1985 cooperation with the Space Research Institute (IKI) of the Soviet Union was started and at the beginning of 1987 Finland became an associate member of the European Space Agency. The cooperation with Soviet Union brought Finland quickly to Mars and with ESA the newly started STSP programme with SOHO and Cluster spacecraft provided an attractive opportunity. Since that modest start in 1985 my responsibility has been to be the leader of about 30 different space projects implemented at the Finnish Meteorological Institute. Some results of these projects will be reviewed and some future perspectives, especially in the Martian exploration programme, will be presented.