



## **ATMOSPHERE OBSERVATIONS BY GEOSYNCHRONOUS SARs**

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We analyze different geosynchronous Synthetic Aperture RADAR concepts aimed to get both tropospheric and ionospheric delay maps with a revisit time of minutes and sub-continental coverage. Such products could be used either to compensate the delay in LEO-SAR missions and GNSS, or to generate integrated water-vapor maps to be used for Numerical Weather Forecast. The system exploits the principle of RADAR location, by transmitting a pulse with a suitable bandwidth, and the residual non-zero eccentricity of COMMunication SATellites. Different concepts are proposed as payload in COMSAT, or constellations of small satellites, that is monostatic or bistatic/multistatic RADARS. The selection of the best frequency, from L to Ku, and the analysis of performances is presented.