



SMOS sea surface salinity determination: status after one year of operations

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SMOS (Soil Moisture and Ocean Salinity), launched in November 2, 2009, is the first satellite mission addressing the sea surface salinity measurement from space. Its unique payload is MIRAS (Microwave Imaging Radiometer using Aperture Synthesis), a new two-dimensional interferometer designed by the European Space Agency (ESA) and operating at L-band. This paper presents a summary of the approach implemented in SMOS to retrieve sea surface salinity and the first results obtained one year after launch, together with an overview of the main problems encountered so far in this novel salinity remote sensing attempt. Despite the SMOS technical and scientific challenges, the first spaceborne ocean salinity maps have been derived. However, further improvements at the various data processing levels are required to achieve the mission objectives.