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Towards An Australian Validation of SMOS

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With the imminent launch of the European Space Agency's Soil Moisture and Ocean Salinity (SMOS) mission, the first space-borne L-band passive microwave observations will soon be available. Consequently, preparations are underway world-wide to validate the brightness temperature measurements from this synthetic aperture technology and its derived soil moisture products during the early post launch stages. With the SMOS launch likely to be in the later part of this year, Australia is particularly well positioned for conducting the first SMOS validation campaign during its spring. The Australian campaign plans to map an approximately 500km x 100km transect (more than 20 pixels) of the Murrumbidgee Catchment of eastern Australia in its entirety at 1km resolution using the Polarimetric L-band Multibeam Radiometer (PLMR). Moreover, the Murrumbidgee Catchment area is unique as it comprises a diverse range of topographic, climatic and land cover characteristics, and therefore represents an excellent validation site for the land component of the SMOS mission. This is further supplemented by a large database of previous campaign measurements, continuous soil moisture monitoring stations, and related meteorological data for the past five years. This paper outlines the airborne campaigns and related ground monitoring planned for this first validation campaign of SMOS. Persons interested in participating in the campaign are encouraged to contact the authors.