



## **The 2009 and 2010 Ground Passive and Active Snow (GAPS) Experiments**

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On February 11th – 17th, 2009 a multi-sensor experiment, the Ground Passive and Active Snow (GAPS) Experiment, was carried out nearby Stanley, Idaho. The aims of the experiment was to collect concurrent ground-based active (Ku-band) and passive (Ka-band) data over snow covered terrain for improving models of active/passive microwave data, refining retrieval approaches based on passive microwave (PMW) data from satellite data (e.g., AMSR-E), developing and refining combined active/passive retrieval of snow parameters (in particular SWE, snow depth and grain size) from MW observations, also for supporting algorithms applied to data collected from currently orbiting satellite sensors and potential future missions (e.g., COREH2O, SCLP).

Beside microwave data, other activities were carried out, such as: analysis of snow stratigraphic properties through conventional techniques (observation and measurement of snow density, grain size, temperature, layer properties along the vertical profile); NIR photographs of snowpit for studying layers distribution and the retrieval of specific surface area (SSA) and grain size; visible macroscope photography of grain size along the vertical direction for comparison with grain size retrieved from NIR photography and refinement of the technique; micropenetrrometer measurements and density measurements by means of a snow fork probe.

At the time of the submission of this abstract, we are getting ready to repeat the experiment in Colorado on February 2010. We will report results from the 2010 experiment as well.