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## POTENTIAL OF NEW SAR MISSIONS FOR MONITORING OF ARCTIC LANDSURFACE HYDROLOGY

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In 2014, several satellites with Synthetic Aperture Radar systems have been launched. ESA's Sentinel 1 mission continues record of previous C-band missions. JAXAs ALOS2 PALSAR provides continuation of L-band records. The potential of both sensors for arctic land surface monitoring are discussed with respect to achievements of the previous missions. Land surface hydrology related features in arctic and sub-arctic environments which can be detected with SAR data include open water, near surface soil water storage, snow and freeze/thaw state. Their circumpolar spatial and temporal patterns are important for the understanding of land atmosphere exchange and changes in ground thermal properties. Specifically seasonal patterns can be detected due to the cloud cover independence. Achievements of a range of national and international projects are summarized: ESA STSE Alanis Methane (www.alanis-methane.info), ESA DUE Permafrost (www.geo.tuwien.ac.at/permafrost), FP7 PAGE21 (www.page21.eu) and FWF COLD Yamal (cold.zgis.net).