A surface elevation changes of the Greenland ice sheet from SARAL/AltiKa satellite radar altimeter - DTU Orbit (31/12/2018)

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Radar altimeter measurements from ERS, Envisat and Cryosat-2 ESA's satellites have been used for study of the ice sheet elevation changes for more than two decades. The follow-on SARAL ISRO/CNES mission with the radar altimeter AltiKa on board was launched in February 2013 on the same orbit as Envisat. However, in contrast to the previous Ku-band radar altimeters, AltiKa operates in Ka-band (36.8 GHz) resulting in smaller footprint, better vertical resolution and decreased penetration of the signal in the snowpack. This work presents Greenland ice sheet surface elevation changes (SEC) derived from the first years of SARAL/AltiKa operation as part of the ESA's Climate Change Initiative program, which addresses the GrIS as one of the Essential Climate Variables. Seasonal changes in elevation and radar altimeter waveform parameters are estimated using crossover and stacking methods and compared with those derived from ERS, Envisat and CryoSat data.

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