Snow Depth From GCOM-W1 AMSR2 Instrument – Experience Gained From the Last Four Winters

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Snow observations from space plays important role in hydrological and climatological studies. They are especially important in remote areas with low (or none) population and sparse conventional observations at the ground. From the second hand, at mid latitudes is expected improvement of snowmelt models by assimilation of spatially distributed data concerning snow water equivalent or snow depth derived from microwave satellite data. Paper presents discussion on several problems with satellite derived snow observations focusing on JAXA GCOM-W1 snow depth product. This product was analysed for last 4 winters (2012-2017). Differences between first and second version of JAXA “Snow Depth” algorithm were presented. Also other problems were discussed: differences between ascending and descending passes, melting snow, shallow snow cover. Benefits and disadvantages of this products were discussed in comparison to other satellite microwave products concerning snow properties. Validation results against ground observations were also presented.