

## 4. TanDEM-X Science Team Meeting, 12 - 14 June 2013, DLR Oberpfaffenhofen

### **Flow and height change of Greenland Ice Sheet outlet glaciers from TanDEM-X observations**

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Climate warming over the 20th century has forced dramatic changes in the Greenland ice caps. Satellite observations have revealed increased flow of the glaciers to the sea, increased surface melting, lowering of the Ice Sheet surface, retreat of the glaciers' fronts, and gravity anomaly related to ice mass loss. These changes have led to a reduction in the mass and a consequent rise in global sea level. Here, we seek to map fine details of the time variability of the flow velocity and surface heights of major outlet glaciers of the Greenland Ice Sheet, a potential tracer of changes in the glaciers' mass balance. Several orbital configurations and multiple TanDEM-X acquisitions allow to explore characteristics of flow and height of glaciers at the Greenland Ice Sheet margin. The results will be assessed in light of other measurements of surface height for validation and analysis of temporal changes.