June 4, 2020

Release Notes for the DPR Version 06X

Level 2 and Level 3 Experimental Products

DPR L2/L3 V06X products are regarded as “experimental products”, not “standard products”. The V06X provides early outcomes of the full-swath coverage after the DPR scan pattern change in 21st May 2018 aiming to apply dual-frequency observation for full-swath of KuPR observation by assigning KaHS rays to outer swath. Basic concept of V06X algorithm is the same as V06A, but, there were several new features of the algorithm for the V06X, due to progresses by algorithm developments.
Preliminary evaluations showed that estimated precipitation in the outer swath from the dual-frequency method tended to be underestimated in V06X. Users need to be cautious about this. This underestimation was regarded as one of future tasks in V07.

See full descriptions by the following link.
https://www.eorc.jaxa.jp/GPM/doc/algorithm/DPRL2_V06X_algorithm_June2020a.pdf

Changes in the DPR algorithm from V06A to V06X

1. Implementation of a new format. The latest TKIO supports the new format including “FS” that is full swath dual-frequency product with 125 m range resolution.
2. Algorithm updates
    - PRE module
        - A sidelobe clutter reduction method after the scan pattern will be installed in the V06X algorithm because that sidelobe clutter contaminations of KaHS became more problematic in the new Ka scan pattern.
        - A sildelobe clutter filter technique for the KaHS is applied also for the Ku.
        - Clutter free detection in the Ku is improved in cases when the brightband (BB) is found near the surface.
    - CSF module
        - Dual frequency technique of the classification module was improved to be applied in the FS.
        - Changed parameters will be used in the HS of the dual frequency

technique.

- New variables related to solid precipitation is implemented.
- Reclassification by the slope method is improved.

- SRT module
  - The latest temporal reference files were applied.
  - SRT codes have been updated so that they now read temporal data over the full swath.
  - Dual-frequency SRT and Hybrid estimates are now applicable to the full swath.
- SLV module
  - We applied the same dual-frequency precipitation estimation in Solver (SLV) module of V06A for V06X.