

XBAER: eXtensible Bremen Aerosol/cloud and surfacE parameters Retrieval (snow)

XBAER input for SLSTR nadir observations

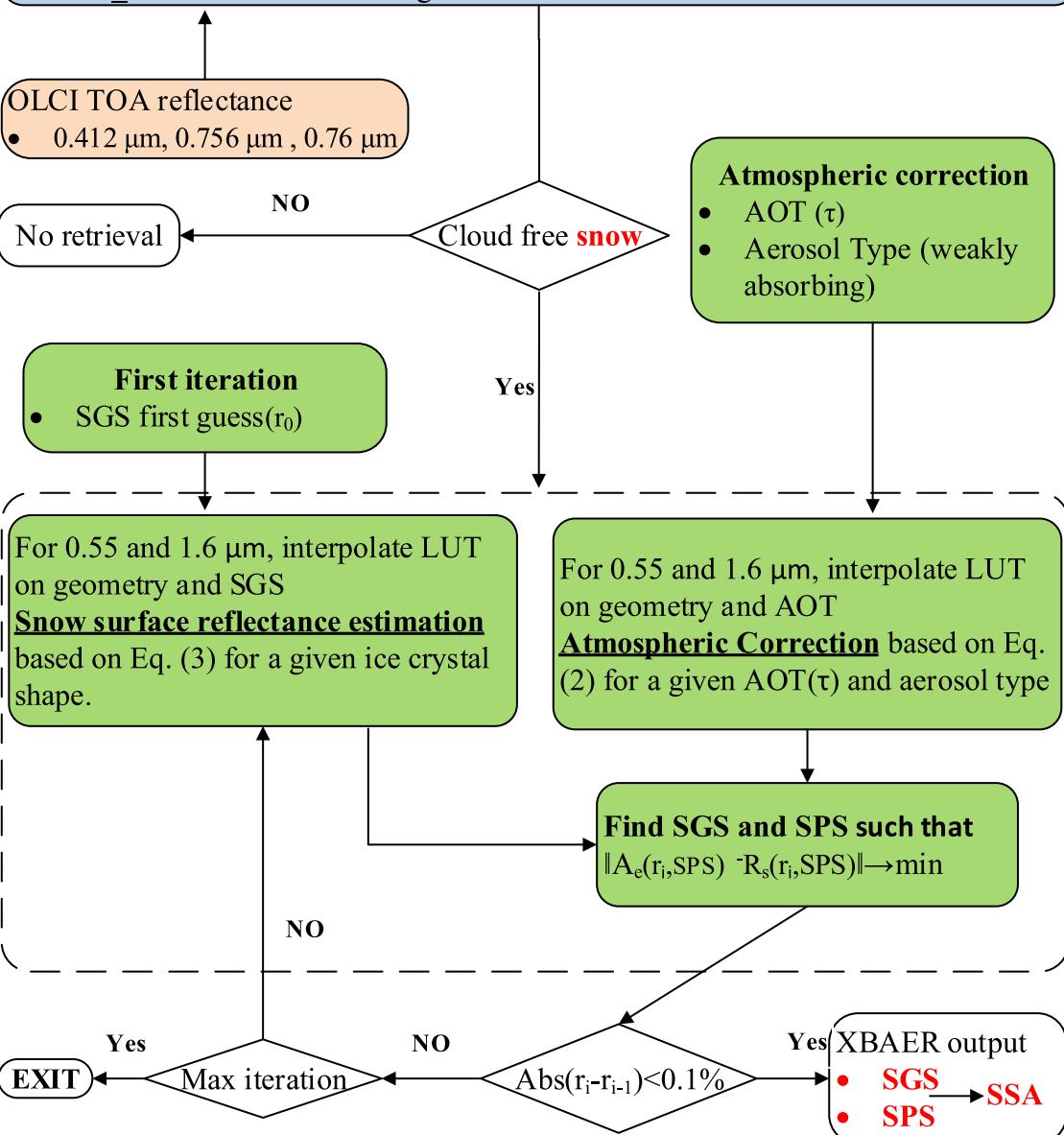
- SLSTR TOA reflectance at 0.55, 0.67, 0.87, 1.6 μm
- Sun Zenith Angle (μ_0), Viewing Zenith Angle (μ), Relative Azimuth Angle (ϕ)
- Longitude, Latitude, Time

Identify bright pixels, mask out dark pixels and fill the values

Cloud Mask with the following criteria (P1, P2 and P3 are threshold values)

- $(R_3 - R_4)/R_3 > P1$ and $(R_3 - R_2)/R_3 < P2$ and $(R_2 - R_1)/R_2 < P3$
- 5x5 pixel to remove cloud adjacency effect

XBAER_standard cloud screening



r_i - SGS for iteration step i r_{i-1} - SGS for iteration step $i-1$