



New perspectives on gravity wave remote sensing by spaceborne infrared limb imaging

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Gravity wave (GW) remote sensing from space now has reached a stage of maturity that some first confinements for GW modeling can be deduced. This is in particular due to global distributions of absolute values of GW momentum flux from infrared limb sounders and due to 2D maps of the horizontal wave field provided by nadir viewing instruments. The logical step forward is an infrared limb imager (ILI) which combines the good vertical resolution of limb sounding with horizontal mapping capabilities and provides 3D images of the GW temperature structures. We investigate

1. how an ILI advances measurements of GW momentum flux,
2. which additional benefits are achieved by limb imaging of GWs, and
3. how an ILI compares to other GW momentum flux measurements, in-situ, ground-based, and from space.

In particular, the large advance made by gaining regular 3D sampling is demonstrated.