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# GRaCE: G-band Radar for Cloud Evaluation

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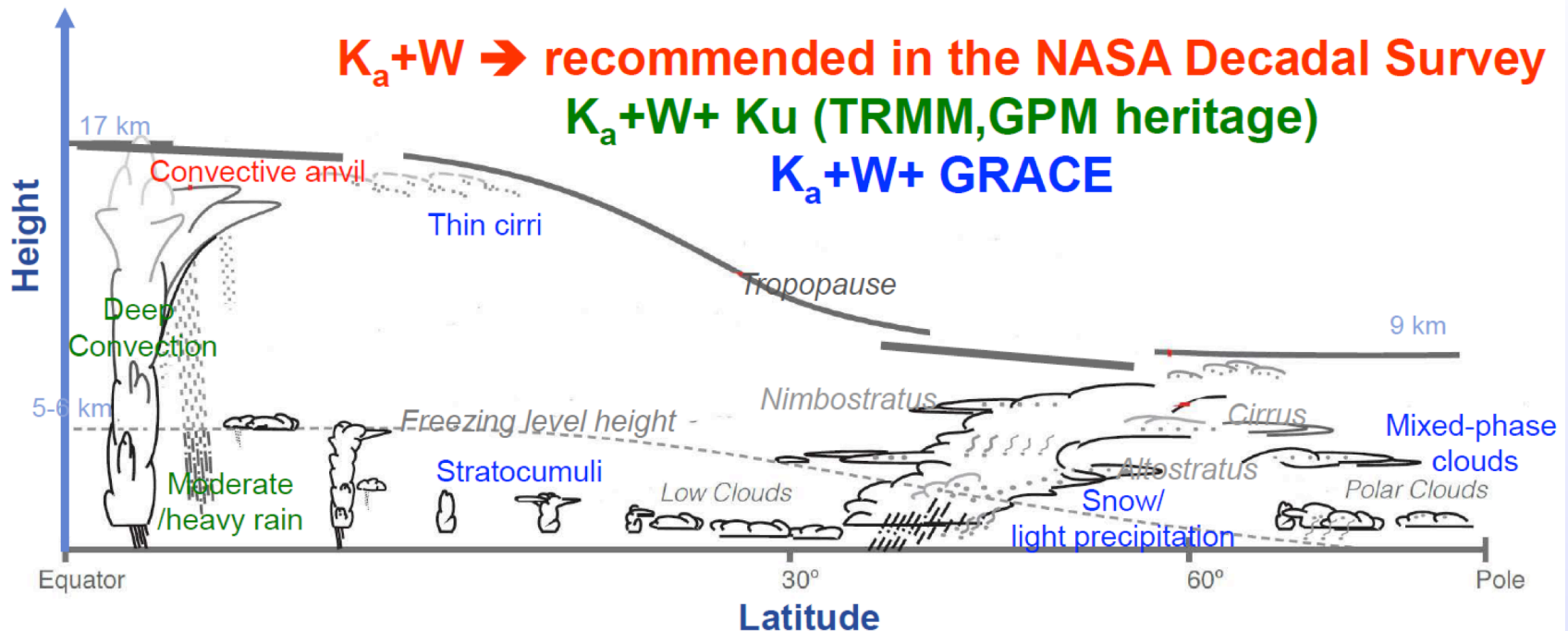
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# Space Cloud Radar



- 200 GHz radar delivers enhanced information on small water droplets and ice in the atmosphere: better scientific understanding
- Combine with lower frequency radar observations: better NWP

## Cloud types targeted by multi-frequency radar



# The GRaCE project

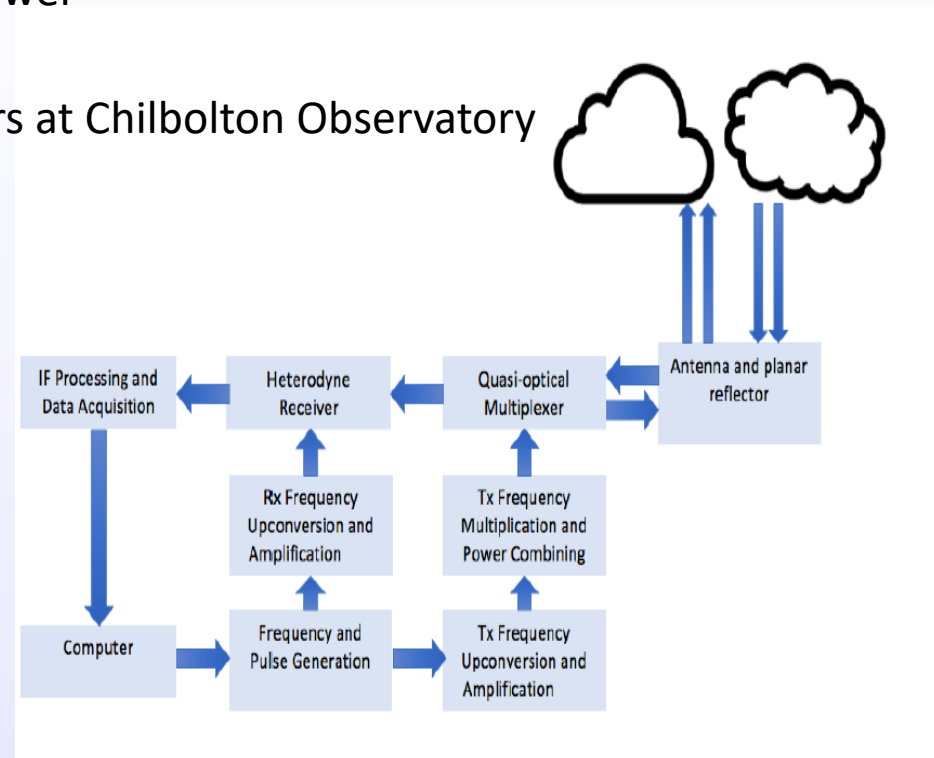


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- UKSA support through CEOI
- Ground based science and technology demonstrator for a future G-Band space radar
- Monostatic, pulsed, Dopplerised, zenith looking, 200 GHz radar
- Solid state technology, 200 mW transmit power
- Range 12 km, resolution 50 m
- Deployment & comparison with other radars at Chilbolton Observatory

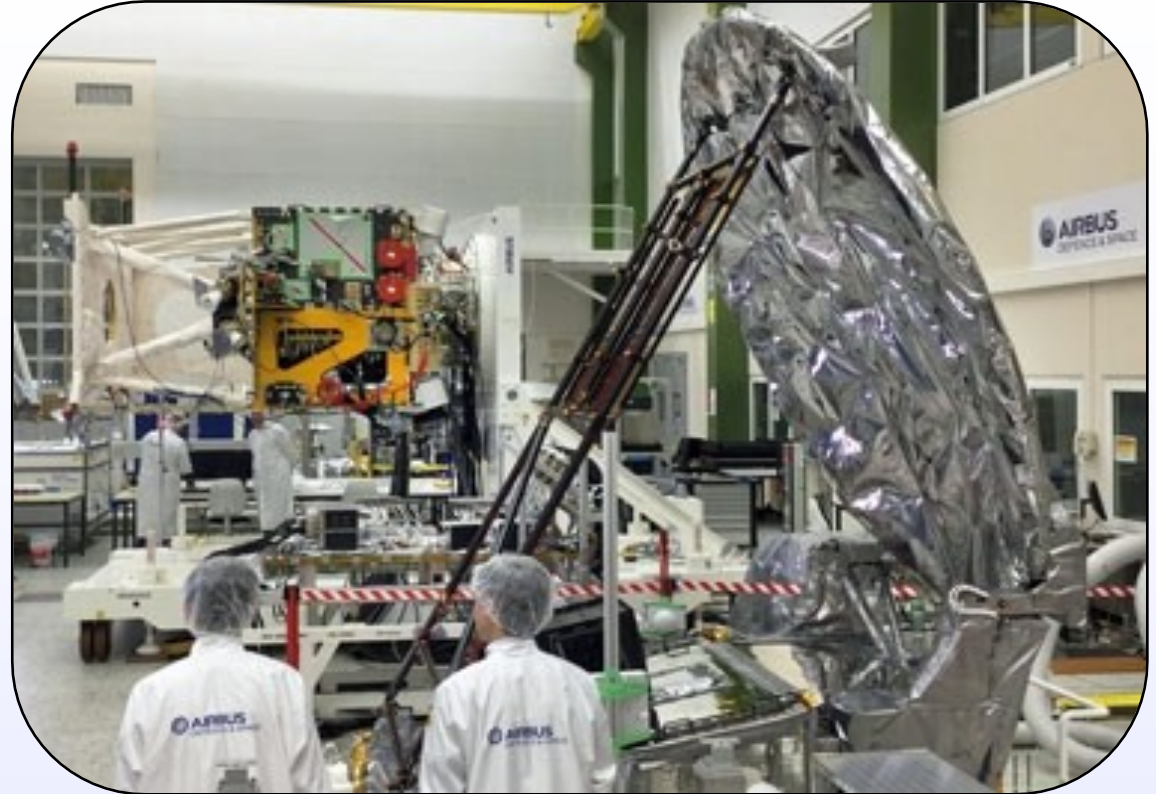
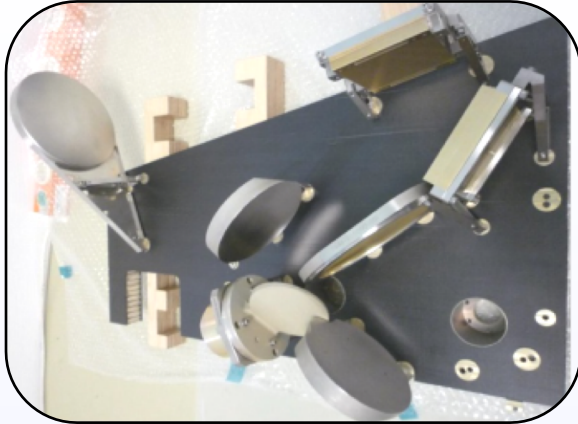


STFC Chilbolton Observatory, Hampshire



System Block Diagram





- 94 GHz EarthCARE quasi-optical diplexer / antenna feed technology
- High performance corrugated feedhorns deliver very low sidelobes.
- Schottky diode frequency conversion technology: mixers and multipliers