

Future possible additional geoscience Instrumentation

- 1. VGOS correlation capacity** – Focus of request for extra **5 Mkr/yr** from LM to government, also considerable geo/astro correlation co-operation within latest EU AURA proposal including deploying possible new more efficient GPU based correlator technology, as developed by JIVE.
- 2. Purchase a quantum gravimeter** – For absolute gravity measurements to complement our existing superconducting gravimeter. Not yet clear if accuracy of current quantum gravimeters is yet sufficient but may be so in 5 years. Cost is estimated as about 5 Mkr.
- 3. Install Satellite Laser Ranging (SLR) equipment** – This would add an important new Space-Geodesy technique at the observatory. A new generation of relatively cheap SLRs (1 Mkr) are now on the market. Need first to investigate safety and regulations. Onsala is close to flight paths to Landvetter airport, new SLR units are supposed to be 'eye-safe' but it not yet clear if regulations require continuous monitoring for aircraft plus an operator.
- 4. Use of a new ngVLA 18m diameter dish for astronomy/geodesy** – Such a dish which could replace both OSO 25 m and 20 m (see later in Astronomy strategy discussion) could be used for defining the Celestial Reference Frame and for making source structure corrections of VGOS data.