

Geophysical Research Abstracts,  
Vol. 10, EGU2008-A-09773, 2008  
SRef-ID: 1607-7962/gra/EGU2008-A-09773  
EGU General Assembly 2008  
© Author(s) 2008



## **Short GPS baselines at SGF Herstmonceux**

M. Wilkinson, R. Sherwood and G. Appleby

Space Geodesy Facility, Herstmonceux Castle, Hailsham, UK (matwi@nerc.ac.uk / Fax +44 1323 833929)

The NERC Space Geodesy Facility at Herstmonceux in the UK operates two IGS sites, HERS and HERT. These sites are approximately 140 metres apart and consequently experience the same environmental and atmospheric conditions. It is therefore valid to calculate a baseline between the sites using only a single GPS frequency, L1 or L2, and this method reveals mm-level variations for this short baseline. The HERS to HERT baseline has been derived on a daily basis since 2003 using the GAMIT software package and is shown to have a close to annual periodic variation of amplitude 0.9mm and a secular decrease in length of  $0.4 \pm 0.1$ mm/year. This baseline slope was also investigated by computing a history of satellite laser ranging calibration values, since the primary laser calibration target is mounted close to HERT, and HERS is close to the SLR system. A recent addition to the Facility of a third GNSS receiver situated between the HERS and HERT sites allows two more baselines to be calculated and enables investigation into the quality of each receiver and any site-specific effects such as possible multipath.