

The Asia Pacific Regional Geodetic Project (APRGP) GPS Solution (1997–2008)

Guorong HU, Australia

SUMMARY

The annual Asia Pacific Regional Geodetic Project (APRGP) GPS campaigns are an important activity of the regional geodesy working group of the Permanent Committee on GIS Infrastructure for Asia and the Pacific Region (PCGIAP). The major objective of these campaigns is the densification of the International Terrestrial Reference Frame (ITRF) in the Asia-Pacific region. The APRGP GPS campaigns consist of 7-day observation sessions and have been undertaken from 1997 to 2008. In this work, we focus on the assessment of realistic uncertainty estimates of the derived crustal velocities, which is still an important unresolved issue. Although assessments of the quality of Continuous GPS (CGPS) determinations of crustal velocity have previously been undertaken, little research has been conducted on the quality of the velocity estimates derived from campaign-based coordinate time series. We have compared our velocity estimates with those published by the International GNSS service (IGS) at common sites and found that they are consistent at 1.4, 1.7, 3.9 mm/yr level in the east, north and up components, respectively. Also, we find that a minimum of 3 years of campaign data is required before reliable velocity estimates can be derived from campaign-based GPS, which is mostly due to the increased possibility of outliers.

CONTACT

Dr. Guorong Hu

Project Officer

Organization: National Geodetic Reference Systems Project

Organization (cont.) Geospatial & Earth Monitoring Div

Organization (cont.) Geoscience Australia

Tel.: + 61 2 6249 9884

Fax: + 61 2 6249 9929

Email: guorong.hu@ga.gov.au

Country: Australia