Contribution ID: **41** Type: **not specified**

Influence Factors Analysis of Baseline’s Solution Based on GPS

Because space distance of ground control network in spallation neutron source is large and requirements of absolute precision are strict, the traditional measurement is difficult to meet the requirements of measurement. In view of this, GPS is adopted to solve the problem, which is not limited to intervisibility and of high accuracy. Through alignment experiment in “standard detection field” , influence of satellite ephemeris, post processing software and observation time on GPS baseline is calculated and analyzed. The result is shown as followed, a. in the measuring range of 1km, the observation accuracy of absolute baseline length is within 3mm through continues 10h observation, no matter adopting precise or broadcast satellite ephemeris; b. results of business software is better than the one of scientific software, and in business software, solution results of ‘TTC’ is close to real baseline value; c. when the observation time exceed 8 hour, the baseline value will stabilize gradually.

Primary author: Mrs MA, Na (Division of Accelerator Technology, Dongguan Campus,Institute of High Energy Physics(IHEP), Chinese Academy of Sciences(CAS).)

Co-authors: Ms LIANG, Jing (Division of Accelerator Technology, Dongguan Campus,Institute of High Energy Physics(IHEP), Chinese Academy of Sciences(CAS).); Mr DONG, Lan (IHEP)

Presenter: Mrs MA, Na (Division of Accelerator Technology, Dongguan Campus,Institute of High Energy Physics(IHEP), Chinese Academy of Sciences(CAS).)