



New GNSS signals and ambiguity resolution

G. Wubbena

Geo++ GmbH, Steinriede 8, D-30827 Garbsen, Germany. (E-mail:
gerhard.wuebbena@geopp.de / Fax: +49-(0)5131-4689-99)

Compared to the current GPS and GLONASS systems, the modernization of existing GNSS as well as the deployment of new systems like the European Galileo System will provide several new signals which can be tracked by new GNSS receivers. For many applications the resolution of carrier phase ambiguities is an important step to achieve accurate positioning, timing or attitude results. With the availability of multiple carrier frequencies and codes as well as additional satellites the ambiguity resolution techniques are expected to be more reliable and to require less observation time compared to the current dual frequency case. Many contributions with respect to so called TCAR (Three Carrier) and MCAR (Multiple Carrier) ambiguity resolution techniques can be found. Some of them indicating very optimistic results like instantaneous (single epoch) ambiguity resolution over very long baselines (Wide area RTK - WARTK over hundreds of kilometers) based on theoretical and simulation studies.