

Removal of GPS Selective Availability - Consequences for DP Applications

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Abstract

This paper presents a summary of expected GPS and DGPS performance after the removal of GPS Selective Availability (SA). Performance is reviewed in terms of accuracy, availability and integrity. Special focus is given on the ionospheric effects on GPS and DGPS. The benefits of using dual frequency (L1/L2) GPS receivers are presented. GLONASS satellites can be used together with GPS in order to mitigate special availability and accuracy problems introduced by the ionosphere in equatorial waters. Therefore the current status of the Russian GLONASS system is also presented. Several examples of achievable accuracy GPS and DGPS are included.

A short review of available GPS and DGPS systems for DP and their potential application areas are presented, and it is proposed that GPS can be utilized as a standalone system with no differential corrections for some DP applications. Modifications to the DP control system in order to cater for the different performance levels that might be experienced are proposed.

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