**ABSTRACT SUBMISSION**

**Topic No.:** 6. Resilient PNT (eLoran)

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**ABSTRACT**

Title: ASF Survey and Analysis in South Korea West Region

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Abstract: GNSS(Global Navigation Satellite System)s are vulnerable to signal loss from solar weather effects, radio and satellite interference and deliberate jamming. Some of nations proposed eLoran system(Enhanced Long Range Navigation) which is one of the GPS back up system. In South Korea, the latest jamming campaign from the North began on March 31, lasting nearly a week and affecting signal reception of aircraft and ships. Theferefore, GPS backup systems are issued in the South Korea. The powerful signal form an eLoran ground-based radio navigation system are widely seen as a cost effective backup for GPS. eLoran is a low frequency(100Khz) radio-navigation system using high-power, long-range transmitters. The pulsed signals provide accurate horizontal positioning for all modes as well as timing for communications and other system. However, ASF(Additional Secondary Factor) factor observed by the receiver is a significant factor limiting the ranging accuracy of the eLoran signal. The ASF can be calculated analytically by integrating the topography and conductivity over the earth surface (Samaddar 1979). This paper presents ASF survey and analysis in South Korea West Region. Especially, between predicted ASF and measured ASF from South Korea Loran station at the south region to test region at the West region have great difference.

[1] Samaddar, S.N. (1979) The Theory of Loran-C Groundwave Propagation - A Review. Navigation, U.S. Institute of Navigation, 26, 3, 173-187.