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THE STUDY OF NAVIGATION SIGNAL DISORTION BY DAC

Abstract

The zeroth-order holds effects of Digital-to-Analogy Converter (DAC) causes amplitude distortion on the spectrum of navigation signal, increase of correlation loss and smoothness of correlation function. To solve the above problems, this paper analyzes the zeroth-order holds effect of DAC on satellite navigation signal quality, and proposes a distortion compensation algorithm. In this algorithm, a FIR digital filter is designed to compensate the spectral distortion of the navigation signal. The experiment results show that this algorithm solve the spectral distortion problems, sharpen the correlation function and reduce the correlation loss. This algorithm is useful for the compensation of zeroth-order holds distortion of DAC in the process of GNSS navigation signal generation.