Abstracts

A software GPS receiver for weak signals

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The paper reports the approach and results of a stand alone software Global Positioning System (GPS) receiver. The receiver is specially designed to receive weak signals without aids from other information sources. The approaches for the acquisition, first navigation phase detection, and tracking are discussed. The different kinds of thresholds with different signal-to-noise ratio (SNR) are developed. Under the best operating condition a signal can be 15 dB below the normal noise level and still be processed.

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