

## **A Fast GPS Satellites Signals Detection Algorithm Based on Simplified Fast Fourier Transform**

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**Abstract :** Due to the Doppler effect caused by the high velocity of satellite and in some case receivers, the frequency of the Global Positioning System (GPS) signals are transformed into a new ones. Several acquisition algorithms frequency of the Global Positioning System (GPS) signals are transformed can be used to estimate the new frequency and phase shifts values. Numerous algorithms are based on the frequencies domain calculation. Our developed algorithm is a new approach dedicated to the Global Positioning System signal acquisition based on the fast Fourier transform. Our proposed new algorithm is easier to implement and has fast execution time compared with elder ones.

**Keywords :** global positioning system, acquisition, FFT, GPS/L1, software receiver, weak signal

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