

# LV Distribution, Performance and Applications

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*by*

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**Abstract:**

Many practical applications deal with signals whose frequencies are changing with time.

Many methods of time frequency analysis have been reported in the literature for finding the time-varying frequency characteristics. A new time frequency analysis method, known as LV distribution (LVD), has been recently reported in the literature particularly for linear frequency modulated signals. Compared to other reported methods, the LV distribution is able to obtain high signal energy concentration, high frequency resolution, very low cross terms for multiple LFM component signals.

Applications for wireless communications, Sonar and Radar signal processing have shown that the LVD has achieved the desirable performance. The presentation will introduce the definition, computation, performance analysis and desirable improvement on SAR imaging obtained by using the LVD.