

研究简报

基于倍频链的宽带LFM信号产生器设计

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摘要

该文的研究工作以线性调频(LFM)脉冲压缩信号为基础,采用直接中频产生技术加倍频链技术设计实现了中心频率1200MHz,带宽200 MHz和66.7 MHz的双分辨力LFM雷达脉冲压缩波形产生系统。实测结果表明,该系统产生信号的带外杂散、谐波优于-55dB,带内起伏小于2dB,脉冲压缩主副比达到30dB以上。系统稳定,性能指标达到实用系统的总体要求。

关键词 [线性调频](#) [倍频链](#) [双分辨力](#) [直接中频产生](#)

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Wide Bandwidth LFM Signal Generator Based on Double Frequency Chains

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Abstract

Based on Linear Frequency Modulated (LFM) pulse compression signal, a system which has two resolution with 1200MHz carrier and 200MHz and 66.7MHz bandwidth, is designed and implemented. According to the measurement results, the spurious signals involved in the system output as well as the harmonic signals are lower than -55dB, the ripple in the band is below 2dB, and pulse compression Ratio of Mainlobe to Sidelobe (RMS) reaches 30dB. The system is quite stable and its performance meets the requirement of actual application.

Key words [LFM](#) [Double frequency chains](#) [Double resolution](#) [Direct Intermediate Frequency \(IF\) generation](#)

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