

A Survey of Methods of Increasing Dynamic Range in Radar Systems

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Abstract:

Current commercial off the shelf analog-to-digital converters (ADCs) do not meet the dynamic range requirements of modern radar systems. Several traditional techniques exist to compensate for the shortfall of the analog-to-digital converter. However, these techniques have many drawbacks that make them unappealing solutions to the increasingly stringent requirements on radar systems. Recently, a few nontraditional techniques have been researched and introduced, namely time interleaved, hybrid filter bank, stacked, and parallel ADCs. Each of these techniques has its own advantages and disadvantages. But overall, these less recognized methods are more viable solutions than traditional methods.