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Research

My research focuses on the various aspects of digital implementation of the TIGER radar including antenna design.

Analog transmission and reception paths naturally induce phase lags which vary with frequency. TIGER utilizes one transceiver per antenna in a linear array which in turn results in 16 various phase lags across each analog path. For accurate beam forming and angle of arrival calculations it is of utter most importance that each of the 16 paths induce equivalent delays. To overcome this problem high speed signal sampling of the Tx and Rx signals is necessary in order to measure delay paths before adjusting the Direct Digital Synthesizer (DDS) to compensate for the delay, essentially calibrating each transceiver.

