Ferroelectric Varactor Devices
(Subramanyam)

Objective:
• Develop frequency and phase agile circuits based on low voltage, high Q Barium Strontium Titanate (BST) varactor devices

Impact:
• Tunable filters for receiver front-end
• Low phase-error low-voltage phase control circuits (360 degree phase shift with ~ 5 V.

Highlights:
• Large area (4”) BST thin films with superior tunable (>4 : 1) properties
• High Q as high as 200 at 10 GHz
• Low leakage currents (<10 nA below 5 V dc bias)
• Temperature dependence ~5% over 20 C to 100 C
• Filed 3 Patents in the BST varactor devices
• Technology licensed by Analog Bridge Inc.
• CRADA between Analog Bridge, AFRL, and UD
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