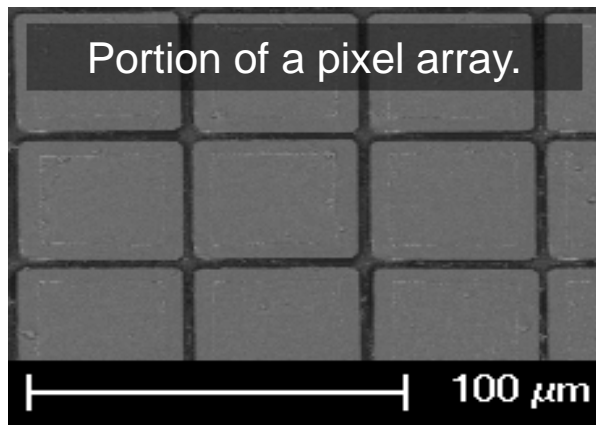


Pyroelectric Thermal Imaging

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Thermal detectors based on the pyroelectric effect in ferroelectric materials show great promise for low cost thermal imaging sensors. Lead Zirconate Titanate (PZT) is one material that is being used for this application.

Thin film prototype arrays based on PZT materials were developed at the Penn State NNIN site. Process tooling from Applied Materials, Tegal, Kurt J. Lesker and Karl Suss were used to fabricate arrays of this scale.

Prototype arrays were integrated into thermal imaging cameras. A 160 X 120 PZT thermal image of the front corner of an automobile is shown.

“Proved the ability to build PZT-based thermal imaging sensors using standard semiconductor processing equipment and techniques.”

Penn State Site