



1 *Nano diamond RF-MEMS components processed on 3" silicon wafer.*

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2 *AlN/Nano diamond resonator array.*

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MICROSYSTEMS BASED ON NANO DIAMOND

Emerging micro-electro-mechanical systems (MEMS) based on wide band gap semiconductors operating in high temperature or radiation environments preserve their outstanding opto-mechanical and electrical parameters. Using thin film technologies at Fraunhofer IAF, AlN and nano diamond are grown on silicon wafers at reduced costs. The growth and processing of both materials are compatible with conventional CMOS technologies opening wide possibilities for on-chip integration of MEMS.

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Services

- Development and characterization of MEMS components e.g. diamond based microstructures, AlN piezo-actuators, custom-designed AlN/Diamond MEMS, tuneable micro-optics
- Complex dynamic characterization of MEMS (e.g. via laser vibrometry)

Applications

- Micro-optics
- Spectroscopy
- Sensor systems
- RF circuits
- Optical circuits