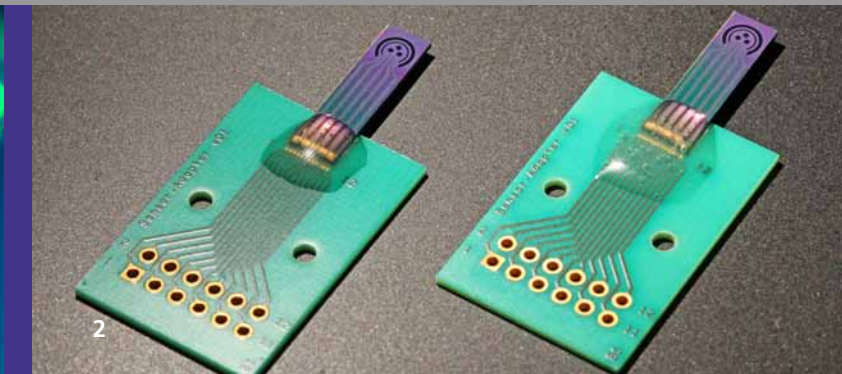




1 A multitude of substances can be analyzed reliably by means of all-diamond sensors.

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2 Integrated electrochemical all-diamond multi-sensor.

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ELECTROCHEMICAL DIAMOND MULTI-SENSOR

Boron-doped diamond is one of the best electrode materials due to its wide potential window, low and stable capacitive current and long chemical stability. Fraunhofer IAF has fabricated all-diamond electrochemical multi-sensors suitable for a variety of applications, for instance in electrochemistry, bio-analytics and battery technology.

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Features

- All-diamond devices
- Chips with integrated Counter Electrodes (CE) and Reference Electrodes (RE)
- Electrode diameter: 600, 20, 10, 5 μm
- Electrode numbers: 3 to 84
- Potential window: 3.2 V in aqueous solutions
- Peak potential difference: 65 mV for ruhex
- Surface functionalization on demand

Applications

- Electrochemical sensing
- Environmental sensing
- Bio-analytics
- Battery technology
- Food quality analysis
- Water quality analysis