



OXYGEN SENSOR WITH ADVANCED OXIDE ELECTRODE MATERIALS

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**In Memory of our beloved teacher, colleague, and friend,
Professor Hans-Heinrich Möbius**

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Abstract- Calcium doped lanthanum and yttrium manganite electrode materials with oxygen deficiency and low polarization resistance ($<30\Omega\cdot\text{cm}^2$ at 600°C) were tested in new advanced electrochemical sensor for the oxygen measurements. Oxygen sensor with oxide electrodes was showing fast response ($t_{95}\sim 5\text{s}$ at 600°C), good reproducibility ($\pm 0.04\% \text{O}_2$) and long term stability at different oxygen concentration.

Index terms: oxygen concentration measurements, potentiometric gas sensor, oxide electrode, perovskite structure, rare earth manganite electrode, combustion application.