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Development of Compact Gaseous Sensors with Internal Reference for Monitoring O_2 and NO_x in Combustion Environments

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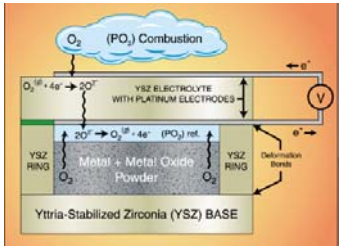
Poster Location: P-17

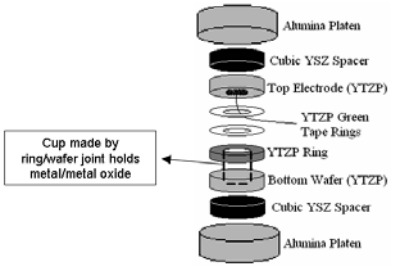
Rationale: *Need for cost-effective, accurate, real-time monitoring O_2 & NO_x sensors for combustion processes to enhance energy efficiency*

Approach: *Develop compact sensors using internal reference gas*

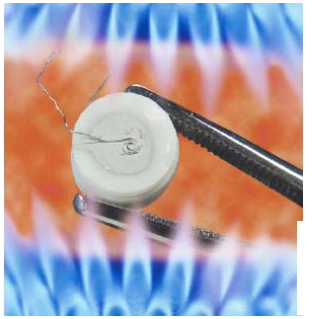
Sensor Conceptual Design



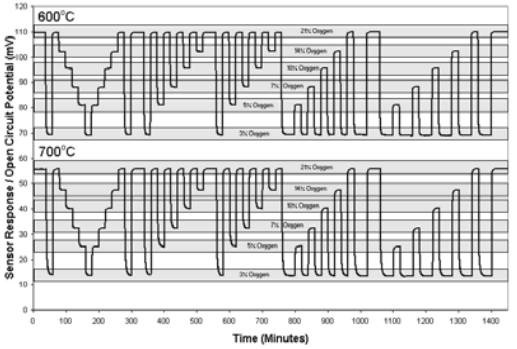
Sensor Components Joined by a Plastic Deformation Process



Fabricated O_2 Sensor



Sensor Performance



Sensor Attributes

- Stable for months
- Miniature
- Highly reproducible
- No complex electronics
- No external reference gas
- Amenable to mass production
- Inexpensive

Modifications for NO_x Sensing