

## **Effect of sintering time on the properties of LaYO<sub>3</sub> doped with ZrO<sub>2</sub> solid electrolyte**

### **Abstract**

LaYO<sub>3</sub> doped-ZrO<sub>2</sub> ceramic with the composition La<sub>0.95</sub>Zr<sub>0.05</sub>YO<sub>3+δ</sub> was prepared via the solid state reaction. The samples were sintered at 1450 °C and sintering times in range of 6-15 hours have been varied for both doped and base samples in order to study its effect on its properties. The results showed that relative density increased remarkably with sintering time. The highest relative density was observed for the samples sintered for 15 hours. Scanning electron micrographs also proved that the porosity of the samples reduced when samples sintered for the longer time.

### **Keywords**

Density; Lanthanum yttrium oxide; Perovskite; Sintering time; Solid electrolyte