

Synthesis of nano sized LSM & YSZ composite powder by the cellulose-GN process

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The composite powder of nano sized lanthanum strontium manganite($\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$) and yttria stabilized zirconia (8YSZ) was synthesized by the cellulose combined GNP. The metal nitrate precursors of metallic solution could be chelated by cellulose and glycine particles in the YSZ aqueous solution. After the chelating reaction, it was calcined at 850°C . Composite powders were synthesized at the various weight ratio of LSM & YSZ and were characterized by XRD, BET, TGA, SEM, TEM.

Though powder characterizations, it could be confirmed that YSZ particles were covered perfectly by LSM nano particles. Because this kind of morphology can provide a high effective surface area (TPB), it could be expected improvement of SOFC cathode reactivity.