

## **ABSTRACT**

Controlled sized nanoparticles (Colossal magnetoresistive compound)  $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$  were synthesized using modified citrate route and the best working conditions for the reaction were found out. Effect of annealing temperature on particle size was investigated. Structural characterization was done by XRD. From XRD data, particle size was calculated using Sherrer's formula. It is observed that the particle size increases with the increase of annealing temperature. To study the effect of particle size on transport properties, resistivity of the samples were measured using four probe method. Metal to insulator transition temperature decreases with the increases of annealing temperature.