

## عنوان مقاله:

FACILE SYNTHESIS OF CERIUM OXIDE NANOSTRUCTURE MATERIALS VIA MOLTEN SALT SYNTHESIS (MSS) METHOD

## محل انتشار:

سومین کنفرانس بین المللی مواد فوق ریزدانه و نانوساختار (سال: 1390)

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## خلاصه مقاله:

In this study, Ceria nano 1D fluorite cubic nanostructures with ~60 nm in diameter and 280 nm in length were prepared by novel and very facile low temperature molten hydroxide synthesis method after only 0.5 h of reaction time without further heat treatment. The cerium hexachloride reacted with molten KOH-NaOH above eutectic temperature to synthesize the ceria nanostructures. Brunauer, Emmett and Teller (BET), X-ray diffraction, scanning electron microscopy (SEM) and transmission electron microscopy (TEM) were employed to analyse the phase structure, morphological study and surface area determinations, respectively. It is observed that nano particles were obtained at the first reaction time while rod formation appeared at this stage of reaction and grew to larger scale by self-assembly process (5  $\mu$ m). Diffracted peak shifts slowly with further reaction time which is attributed to the larger lattice parameter.

## کلمات کلیدی:

Ceria; nano structure; synthesis; molten hydroxide

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/613133>

