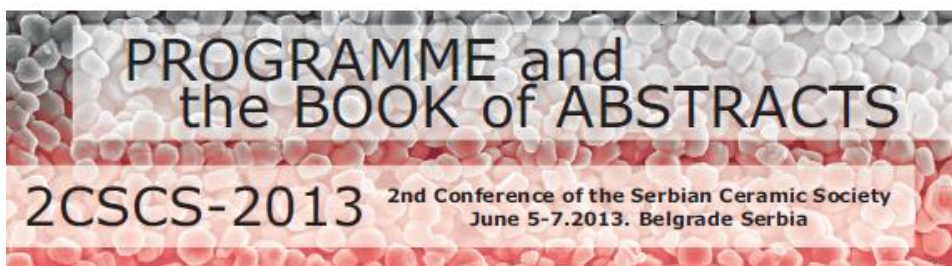


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# **PROGRAMME AND THE BOOK OF ABSTRACTS**

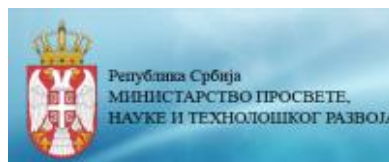
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P-1

## PHOTOCATALYTIC PROPERTIES OF HYDRO-AND SOLVOTHERMALLY PREPARED NANOSIZED ZnO

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Two salts of Zn were used as starting materials:  $\text{Zn}(\text{CH}_3\text{COO})_2 \cdot 2\text{H}_2\text{O}$  for solvothermal and  $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$  for hydrothermal treatment. Initially,  $\text{Zn}(\text{CH}_3\text{COO})_2 \cdot 2\text{H}_2\text{O}$  was dissolved in ethylene-glycol in the presence of PVP and addition of solid NaOH, while solutions of the  $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$  and NaOH were mixed to prepare precursor suspensions. The precursors were subjected to solvo- or hydrothermal treatment at 120 °C during 18 h. The prepared samples are characterized by X-ray diffraction and TG/DSC analysis, while photocatalytic properties were tested according to degradation of Reactive Orange 16.

P-2

## NANOPOWDERS OF CeO<sub>2</sub> OBTAINED BY HYDROTHERMAL METHOD FROM THE VARIOUS PRECURSORS

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In this work we have explored different ways for synthesis of nanosized CeO<sub>2</sub>. Four different salts of cerium were used as starting materials for the synthesis as the precursors: two salts of cerium (III):  $\text{Ce}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$  and  $\text{CeCl}_3 \cdot 7\text{H}_2\text{O}$ , and two salts of cerium (IV):  $\text{Ce}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$  and  $(\text{NH}_4)_2\text{Ce}(\text{NO}_3)_6$ . The precipitated precursors were washed and then subjected to hydrothermal treatment at 200 °C during 18 h. In some cases hydrothermally prepared samples were annealed at higher temperature to obtain phase-pure samples. The phase identification of the samples and analysis were carried out by X-ray diffraction, FTIR spectroscopy, and TG/DSC analysis.