Nanostructured metal oxides – synthesis and characterization

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<u>Abstract:</u> Nanostructured metal oxides have already found important applications in chemical catalysis, biomedicine, optoelectronics, semiconducting materials, etc. Their chemical, microstructural and physical properties depend on the synthesis route. Therefore, it is important to establish the relationships between the synthesis route and the properties of metal oxides. On the other hand, these investigations are also important from the academic standpoint. In the systhesis of nanostructured metal oxides we are mainly using chemical methods: chemical precipitation, sol-gel, emulsion hydrolysis, thermal decomposition of various precursors, solvothermal reactions, etc. The formation of nanoctructured metal oxides has been monitored by X-ray powder diffraction, field emission scanning electron microscopy, transmission electron microscopy and by different spectroscopic techniques. In this review we shall present the characteristic results of our research.



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