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Quantitative determination of crystalline and amorphous phases in ZrO₂ (MgO) (Y₂O₃) using the Rietveld method

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The quantitative study of decomposition of solid solutions in oxides system has great interest for phenomena understanding. In this work the characterization of stability of zirconia stabilized with yttria and magnesia during subeutectoid treatment at 1250 oC was determined to investigate de degradation of ZrO₂ – MgO - Y₂O₃ phases and define the stability at room temperature of cubic phase. A set of analysis for structure refinement using the Rietveld (whole-profile) method has been utilized to the determination of quantitative phases in ZrO₂ (MgO) (Y₂O₃).