16-006 Microscopic characterization OF ZrO2 doped by addition OF YNbO4 sintered under vacuum

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Zirconia compositions with 14.5, 16 and 17.5 mol% of YNbO4 were prepared applying 2 cycles of mixing and milling in planetary ball mill, during 5 hours alternating with calcination at 1000 oC. The analyses were conducted on this new material, for their application as TBC´s. The ceramics sintered under vacuum at 1650 oC were polished and etched with hydrofluoric acid for 8 and 18 minutes at room temperature. The scanning electron microscopy and analysis by EDS showed the grains with domains revealed with the same compositions but with different colors or like APB structures indicating the possible presence of ferroelastics domains.