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Apresentador - **Jose Helio Duvaizem**

Production of Ti-13Nb-13Zr alloy by PM for biomedical applications using zirconium oxide grinding bowl and balls

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In this present work Ti-13Nb-13Zr alloy was produced by PM using planetary mill with bowl and balls of zirconium oxide to reduce contamination. The effect of milling speed and time upon microstructure and mechanical properties was studied. Powders have been produced by hydrogenation of Ti, Nb and Zr at 1GPa. Milling speed was 200, 400 and 600 rpm during 90 to 360 min. Sintering was carried out at 1150°C during 7 and 10h. Powder size distribution was analyzed using CILAS equipment and chemically characterized by Energy-dispersive X Ray Spectroscopy (EDX). Elastic Modulus and microhardness were determined by means of a Dynamic Mechanical Analyzer (DMA) and a Vickers microhardness tester. Density of the samples was measured using a liquid displacement system. Microstructure and phases were analyzed employing scanning electron microscopy (SEM) and X Ray diffraction.