



STUDY OF PHYSICAL AND STRUCTURAL PROPERTIES OF LEAD PHOSPHATE GLASSES

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Glasses with high lead concentration have some interesting features such as low melting and transformation temperatures, large wide glass formation region, high resistance against devitrification, high linear and nonlinear refractive indexes and good radiation shielding for γ -rays [1]. The incorporation of WO_3 enhance the thermal stability against devitrification and increases its resistance to atmospheric moisture [2]. In the present work, glasses were synthesized according to the composition rule $(100 - x) PbHPO_4 - x WO_3$, with x varying from 10 to 60% WO_3 by the conventional melting-quenching method and submitted to annealing of the glass transition temperature (T_g). Thermal and structural investigation was promoted as a function of tungsten concentration, using DSC, FTIR, DRX and ^{31}P MAS-NMR. Optical properties have been investigated and will be presented.

1. Y. B. Saddeek, Journal of Alloys and Compounds 467 (2009) 14-21.
2. A. MAnsigh, A. Dhawan, R. P. Tandon, Journal of Non-Crystalline Solids, 27 (1978) 309.