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## Thermal and structural study of NaPO3-Ta2O5 glasses

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Phosphate compounds based on NaPO3 have been intensively used in glass science as host matrixes because of their high vitrifying ability and unusual capacity to dissolve high amounts of other glass modifiers and intermediaries. Phosphate glasses containing transition metal oxides display a special scientific interest due to potential applications in several fields of optics. In this work, vitreous samples were prepared in the ternary system 90[(1-x)NaPO3(x)Ta2O5]10K2O with x varying from 5 to 20 mol%. The glass forming range is stable against devitrification. Structural investigations by Raman spectroscopy suggest that the Ta addition causes reductions of the P-O-P linkages. In addition, the results of IR spectroscopy shows that the Ta2O5 addition provokes decrease in the bands associated with water. This makes NaPO3-Ta2O5 a promising candidate in the luminescence field once the water presence is minimized and transparent glass-ceramics can be planned.