

## IR-spectrometric analysis alumophosphate glass

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**Keywords:** alumophosphate glass, oxides of rare earth elements.

### Abstract

The effect of the oxides of rare earth elements on the structure change of glass series with the nominal compositions (mol.%): 40 Na<sub>2</sub>O, 20 Al<sub>2</sub>O<sub>3</sub>, 40 P<sub>2</sub>O<sub>5</sub> have been studied by infrared spectroscopy method. It is shown that the introduction the oxides of rare earth elements into the glass base composition change an infrared spectrum, that is, the structure of the glass. There is a decrease in intensity of the bands 900-950 cm<sup>-1</sup> and 700-750 cm<sup>-1</sup>. In addition, there is observed the redistribution of intensities 1000-1100 and 1150-1200 cm<sup>-1</sup> in favor of the 1000-1100 cm<sup>-1</sup> and increased absorption in the range 400-500 cm<sup>-1</sup>. These changes can be explained depolymerizing effect of ions of rare earth elements which even at low concentrations alter the structural grid of the phosphate glass.