

## FTIR SPECTROSCOPY OF THE VANADATE NANOPARTICLES OF VARIOUS CATION COMPOSITIONS

*The  $La_{1-x}Ca_xVO_4$  and  $La_{1-x-y}Eu_yCa_xVO_4$  ( $0 \leq x, y \leq 0.2$ ) micro/nanosized powders were prepared by aqueous nitrate-citrate sol-gel synthesis. Phase composition of the sample depends on the  $x, y$  values. Phase transformation and especially  $Ca^{2+}$  ions influence IR spectroscopy and luminescence behavior of studied compounds, as  $Ca^{2+}$  ions impact both on  $VO_4^{3-}$  molecular groups and  $La^{3+}$  and  $Eu^{3+}$  ions.*

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