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FORMATION MECHANISM AND KINETICS OF NON-AQUEOUS  
FLUORIDES OF RARE METALS THROUGH INTERACTION OF THEIR  
OXIDES WITH FLUORINE HYDRIDE

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The study on kinetics and synthesis mechanism of non-aqueous fluorides of rare metals by interaction of their oxides with fluorine hydride has been carried out in polythermal and isothermal regimes in the range 425-875 K.

The polythermal kinetic curves, obtained at a steady temperature rise of the samples, have been compared with the model equations, which were presented by several authors as tabulagrams. The comparison of that kind ensures reliable postulating for certain reaction mechanism of an oxide and fluorine hydride interaction.

Quantitative kinetic equations have been calculated pertaining to the interaction of beryllium, scandium, yttrium, lanthanum, gadolinium, erbium, zirconium, hafnium and thorium oxides with fluorine hydride in a wide range of temperatures and concentrations.