

OPTIMIZATION OF FLUORINE EXTRACTION PROCESS BY
ELECTROFLOTATION OF ALUMINIUM HYDROXOFLUORIDE
COMPLEXES

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An extreme problem of the optimization of aluminium hydroxofluoride complexes extraction process has been solved in order to determine the condition for the most effective water purification from fluorine based on the parameters of electroflotation, i.e. current density j and duration of extraction. τ .

The electroflotational process mathematical modelling had been carried out applying the method of trials planning by means of regression function calculation on j and τ fluorine and aluminium concentration in the purified water, as well as the dynamic pH of the solution. For convenience, the canonical transformation of fluorine concentration square regression function has been performed alongside optimization. Analytical and graphical representations are given based on the investigation results.