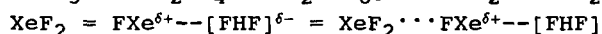
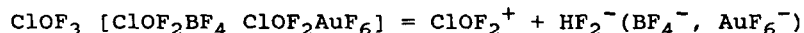


# RAMAN SPECTRA OF THE SOLUTIONS SOME INORGANIC FLUORIDES IN ANHYDROUS HYDROGEN FLUORIDE.

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The laser Raman spectra for the solutions  $\text{KrF}_2$  (1,5+7,5),  $\text{XeF}_2$  (0.15+16.5),  $\text{ClOF}_3$  (1.8+9.2),  $\text{ClOF}_2\text{BF}_4$  (1.3+2.8) and  $\text{ClOF}_2\text{AuF}_6$  (0.3+2.8 mole  $\cdot \text{l}^{-1}$ ) in anhydrous HF have been recorded. The spectral study gives an evidence for a strong self-ionisation of  $\text{ClOF}_3$  and its salts and for a weak one of  $\text{XeF}_2$  in HF (see table):



$\text{XeF}_2$		$\text{ClOF}_2\text{HF}_2$		$\text{ClOF}_2\text{BF}_4$		$\text{ClOF}_2\text{AuF}_6$	
$\nu$	$\Delta\nu_{1/2}$	$\nu$	$\Delta\nu_{1/2}$	$\nu$	$\Delta\nu_{1/2}$	$\nu$	$\Delta\nu_{1/2}$
476(47)	47	1333p	10	1334p	8	1334	6.5
539(100)	76	1321p	10	1322p	8.5	1327	7.0
474(37)	52	736p	30	742p	22	748p	15
510(95)	25	705dp	20	711dp	14	714dp	10
540(100)							

The existence of  $\text{ClOF}_3$  adducts with HF was confirmed by results of thermal analysis with these data the melting point-composition diagram was constructed.

Theoretical estimations showed that the value  $\Delta\nu_{1/2}$  of  $\nu_1$  and  $\nu_2$   $\text{ClOF}_2^+$  decreases with the increase of solution concentration which is connected with limitation of orientational move of soluble molecules. The orientational time for  $\nu_1$  is 1.63 ns ( $\text{HF}_2^-$ ), 1.31 ns ( $\text{BF}_4^-$ ) and 1.06 ns ( $\text{AuF}_6^-$ ), and for  $\nu_2$  -three times smaller accordingly the previous values for  $\nu_1$ .

The data obtained in this study are discussed together with existing data on solid substances.