

## STRUCTURES OF INORGANIC FLUOROANIONS WITH HIGH AND LOW COORDINATION NUMBERS

A. R. Mahjoub, D. Leopold, K. Seppelt

Freie Universität Berlin, Institut für Anorganische und Analytische Chemie, Fabeckstraße 34-36, D-1000 Berlin 33 (F. R. G. )

The crystal structures of  $\text{BrF}_6^-$  und  $\text{IF}_6^-$  are presented. They show a remarkable difference:  $\text{BrF}_6^-$  is octahedral,  $\text{IF}_6^-$  is not. The latter is compared to the different forms of  $\text{XeF}_6$ .  $\text{IF}_8^-$  is square antiprismatic,  $\text{IOF}_5^-$  pentagonal pyramidal with apical bonded oxygen. The cations in these compounds are  $\text{NO}^+$  and  $(\text{CH}_3)_4\text{N}^+$ . Crystal structures of related materials are presented also.

By making use of the non-bridging, highly electronegative ligand  $\text{OTeF}_5$  a number of structures of xenon, iodine and other compounds are shown that give insight into the geometry of the central atom under conditions of low coordination.