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FLUORINE ION CONDUCTORS BASIC AND APPLIED RESEARCH

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Fluorides which are insulators, possess a high anionic conductivity due to the small ionic radius of F^- . The examination of the known ionic superconductors allows to point out some general criteria characteristic of high mobility of F^- . The mechanisms of conduction determined on the basis of NMR and neutron diffraction are described. The possibility of utilization of these materials for thermodynamic measurements, specific electrodes, solid state batteries, electrochromic devices and gas sensors are examined.