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SODIUM IRON FLUOROPHOSPHITE GLASSES PART II. EPR AND MÖSSBAUER RESONANCE STUDY *

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Abstract - EPR and Mössbauer measurements have been performed on sodium iron fluorophosphate glasses. Mössbauer spectra show the presence of Fe^{3+} and Fe^{2+} both in octahedral coordination sites. However, for low iron concentration, EPR suggests a small number of Fe^{3+} tetrahedra coexisting with Fe^{3+} octahedra. On the basis of these results, Fe^{3+} tetrahedrally and/or octahedrally coordinated, connected with $\text{P}(\text{O},\text{F})_4$ tetrahedra would behave as a network-former cation, whereas Fe^{2+} would substitute for Na^+ as a network-modifier. Long range magnetic order previously observed by magnetic measurements has been confirmed for iron-rich compositions.

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