
1D/2D NMR investigation of borophosphate glasses

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Abstract

The local and medium range orders of the borophosphate glass network have been analysed by ¹¹B/³¹P correlation nuclear magnetic resonance. A high field NMR protocol (18.8 T), including recently developed NMR sequences, has been applied on different borophosphate systems (sodium, lithium, tin -borophosphate) during the last decade. This contribution summarizes how NMR provides new insights onto the nature of the mixed borophosphate species, the distribution of borate units in the glass network, the formation of BOB bonds and the presence of POB3 linkages.

Keywords: phosphate glasses, correlation NMR, structure

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