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New insight in the nature of surface magnetic anisotropy in iron borate

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Highlights

- The theory of surface magnetism of iron borate, FeBO3, is reexamined
- A model of distortion of local structure on the surface of FeBO3 is developed
- The spin Hamiltonian for Fe3+ ions on the surface is put forward
- Crystal field contribution to surface anisotropy of FeBO3 is calculated
- Experimental studies of surface anisotropy suggest relative contractions of ca. 1%

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