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Investigation of high-temperature multiferroic perovskites

The increasing miniaturazation of electronic components is constantly pushing the material scientists and ingeneers to seek for new materials which could accomplish more than one task at a time. Multiferroics, and their versatility, are of great interest for the new generation of data storage devices. The O-defficient double perovskite YBaCuFeO5 hosting magnetoelectric properties is a serious candidate to be part of our future numeric environment. Although its electric polarization seems to be rather weak, it displays magnetic spirals that happened to be relatively easy to tune by modifying the synthesis conditions. This talk will give a exhaustive description of the studied material and introduce the current investigations aiming at a further control of the magnetism in YBaCuFeO5.

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