

The kinetics features of a thermal spin transition characterized by optical microscopy on the example of  $[\text{Fe}(\text{bbtr})_3](\text{ClO}_4)_2$  single crystals: size effect and mechanical instability.

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We investigated by optical microscopy the thermal spin transition in single crystals of  $[\text{Fe}(\text{bbtr})_3](\text{ClO}_4)_2$  (bbtr = 1,4-di(1,2,3-triazol-1-yl) butane). The growth of the low-spin phase was observed for different crystal orientations and sizes. The process always started from a corner of the crystal but its further development depended on the size, shape and thermal history of the crystal. In crystals of smaller size, under isothermal conditions, the low-spin phase developed in a continuous way, through the propagation of a rather well defined transformation front, with a higher propagation velocity inside the planes perpendicular to the c axis. In larger crystals the spontaneous occurrence of inhomogeneous stresses led to a stepwise propagation process.

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