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Title:	Evolution of magnetic dynamics in an artificially frustrated Fe nanoparticle system
Authors:	Pal, S.P. (/jspui/browse?type=author&value=Pal%2C+S.P.) Sen, P. (/jspui/browse?type=author&value=Sen%2C+P.)
Keywords:	Nanoparticle system Evolution of magnetic Dynamics
Issue Date:	2014
Publisher:	Institute of Physics Publishing
Citation:	Materials Research Express, 1(3)
Abstract:	Frustrated lattices, characterized by minor breakdown in local order in an otherwise periodic lattice, lead to simultaneous possibilities of several ground states which can trigger unique physical properties, in condensed matter systems. We have achieved a new approach to introduce positional atomic disorder inside an Fe nanoparticle lattice, forming domains without boundaries to study magnetic dynamics of the constituent spins. This magnetism overrides the exchange bias derived magnetic enhancement, appears only at temperatures around 200 K and is characterized by a dynamic polarity, $p = \pm 1$ (positive or negative) with a precise frequency. The material otherwise behaves like a superparamagnet with characteristic magnetization behavior at room temperature and 2 K.
URI:	https://iopscience.iop.org/article/10.1088/2053-1591/1/3/035002 (https://iopscience.iop.org/article/10.1088/2053-1591/1/3/035002) http://hdl.handle.net/123456789/3057 (http://hdl.handle.net/123456789/3057)
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