ITERATED FUNCTION SYSTEMS ENRICHED WITH ISOMETRIES AND TRANSITION PHENOMENA

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An iterated function system (IFS) can be enriched with an isometry in such a way that the resulting fractal set has prescribed symmetry. Such a system is an example of a noncontractive IFS. We will discuss the Lasota-Myjak theory of semiattractors and describe how it can be used to explain the behaviour of IFSs enriched with isometries. We will then show that such IFSs arise naturally in the study of a one-parameter family of IFSs. In particular, they occur at the threshold parameter between contractivity and expansion of the one-parameter family of IFSs.
(This is joint work with Krzysztof Leśniak, Filip Strobin and A. Vince)

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