1113-15-82 **Andrew Vince*** (avince@ufl.edu), Gainesville, FL 32611, and **Michael Barnley**. *The Eigenvalue Problem for an Iterated Function System.*

For an interated functions system $\mathcal{F} = \{\mathbb{R}^n;\ f_1, f_2, f_3, \dots\}$, the Hutchinson operator $F : \mathbb{H} \to \mathbb{H}$ is defined on the space $\mathbb{H}$ of nonempty compact subsets of $\mathbb{R}^n$ by

$$F(B) = \bigcup_{f \in \mathcal{F}} f(B).$$

We formulate and discuss an analog of the classical eigenvalue problem, namely to find a nonzero $\lambda \in \mathbb{R}$ and a nonempty compact subset X of $\mathbb{R}^n$ such that

$$F(X) = \lambda X.$$

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