Mathematics > Dynamical Systems

Hierarchy of graph matchbox manifolds

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We study a class of graph foliated spaces, or graph matchbox manifolds, initially constructed by Kenyon and Ghys. For graph foliated spaces we introduce a quantifier of dynamical complexity which we call its level. We develop the fusion construction, which allows us to associate to every two graph foliated spaces a third one which contains the former two in its closure. Although the underlying idea of the fusion is simple, it gives us a powerful tool to study graph foliated spaces. Using fusion, we prove that there is a hierarchy of graph foliated spaces at infinite levels. We also construct examples of graph foliated spaces with various dynamical and geometric properties.

Comments:	New examples added at the end of Section 2; Introduction is rewritten. To appear in Topology and its Applications
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