

Women in Mathematics in South-Eastern Europe

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Systems of Isometries and Their Family

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Systems of partial isometries of the interval represent a simple combinatorial object which appears in topology in connection with measured foliations on a surface (orientable or non-orientable), in dynamics as a nice model to study billiards in rational polygons and in geometric group theory as a way to describe actions of free groups on R-trees.

We will discuss several classes of systems of isometries, including interval exchange transformations, interval exchange transformations with flips, interval translation mappings and band complexes. We try to compare their key dynamical properties, such as minimality, ergodicity, invariant measures, and outline the most challenging open questions.