

Recognition of symmetries in reversible maps

Isabel S. Labouriau¹

¹ Centro de Matemática da Universidade do Porto

We deal with germs of *involutions*: homeomorphisms R that are their own inverse. We are interested in germs of homeomorphisms F that are *R-reversible*: $F \circ R = R \circ F^{-1}$. We establish that this condition implies that, in general, both the family of reversing symmetries and the group of symmetries of a given germ are not finite, in contrast with continuous-time dynamics, where typically there are finitely many reversing symmetries. From this we obtain two chains of fixed-points subspaces of involutory reversing symmetries that we use to obtain geometric information on the discrete dynamics generated by a given map. The results are illustrated by the generic case of diffeomorphisms in arbitrary dimension, when the map is the composition of transversal linear involutions.

This is joint work with Miriam Manoel (ICMSC – USP — Brasil) and Patrícia H. Baptistelli (UEM – Brasil).