Orders and actions on the line.

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A group G is left orderable if there exists a total order on G which is invariant under the action of G on intself by left multiplications. I turns out that G is left orderable if and only if G can act faithfully on the line by homeomorphisms.

The space of orders of a group G is a topological space that parametrizes all the ways in which G can be left ordered. We will talk about spaces of orders and a variation of these spaces introduced by Bertrand Deroin (The Deroin space of G) which turns to have a more dynamical flavor (it is related with the space of minimal actions of G). If there is time we will talk about our contribution in the description of some of these spaces.