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Orbifolds and Equivariant Homotopy

I will discuss a joint project with Dorette Pronk to create and exploit close links between the theory of orbifolds and that of equivariant homotopy theory. In her talk, Dorette will describe a way to use translation groupoids to formalize the relation between these subjects.

I will discuss applications of this theorem: how it can be used to translate equivariant homotopy invariants into orbifold invariants. In setting up the equivalence between orbifolds and translation groupoids, we also get a concrete description of the forms of the equivariant essential equivalences which are inverted. It is this description which makes it feasible to adapt equivariant invariants to orbifolds. I will describe this and give examples.