$\begin{array}{c} \textbf{Orbit spaces} \\ \text{Peter MicHOR}^1 < \texttt{peter.michor@esi.ac.at} > \end{array}$

This is a review on several aspects of orbit spaces of proper actions of Lie groups on manifolds: Orbit type stratification, geodesics and ballistic curves on orbit spaces, lifting of curves and tensor fields ... The question for the correct structure on an orbit space can be asked in the topological world, the differentiable world, the real analytic world, and the algebriac world. The most difficult case is the differentiable world.

¹Fakultaet fuer Math., Univ. Wien