

# The geometry of nonholonomic mechanical systems

David Martín de Diego

During the last years, there has been an increasing interest in nonholonomic mechanical systems, partly motivated by some open questions in the subject, such as those concerning reduction, integrability, stabilization or controllability; and also for their applicability in engineering, specially in robotics, mainly because it describes the motion of wheeled devices. To measure this interest, look for the word “nonholonomic” in MathScinet, for instance, and you will immediately obtain more than 900 entries and among them, 300 in the last century.

In this talk we will explore some of the reasons for this extraordinary fecundity. Showing, in particular, some new geometric developments and certain open questions related with this fascinating research topic.