Parabolic geometry of a car

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I show that a car, viewed as a nonholonomic system, provides an example of a flat parabolic geometry of type (SO(2, 3), P12), where P12 is a Borel parabolic subgroup in SO(2, 3). The plan is to discuss relations of this geometry of a car to the geometry of circles in the plane (a low dimensional Lie sphere geometry), the geometry of 3-dimensional conformal Minkowski spacetime, the geometry of 3-rd order ODEs, projective contact geometry in three dimensions, and the geometry of the corresponding twistor fibrations. I hope that time permits to talk about all of these topics.

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