CHAPTER OVERVIEW

6: General Planar Motion

Although Newton’s laws of motion, the various force laws, and the three conservation laws we have derived, are all valid in three dimensions, we have so far restricted our study of motion almost exclusively to two special cases: linear motion in one dimension, and rotational motion in a plane, where the radius of the rotation is constant. Although for the second case we do need two directions to describe it, the motion itself is constricted to a circle, and thus essentially one-dimensional. In this section, we’ll look at general motion in a plane - which turns out to capture a large number of important nontrivial cases.

Thumbnail: Stock cars racing in the Grand National Divisional race at Iowa Speedway in May, 2015. Cars often reach speeds of 200 mph (320 km/h).
