

Moving coordinates

Normally we represent a point in a plane or space using fixed coordinates. However, for studying certain properties of curves, it turns out to be surprisingly useful, as you shall see, to use “moving” coordinates. Intuitively, this is the point of view of a pilot flying an aircraft instead of the view from the ground. These coordinates will introduce another quantity called the torsion and it is possible to show that the curvature and torsion, for all practical purposes, determine the entire geometry of the curve.