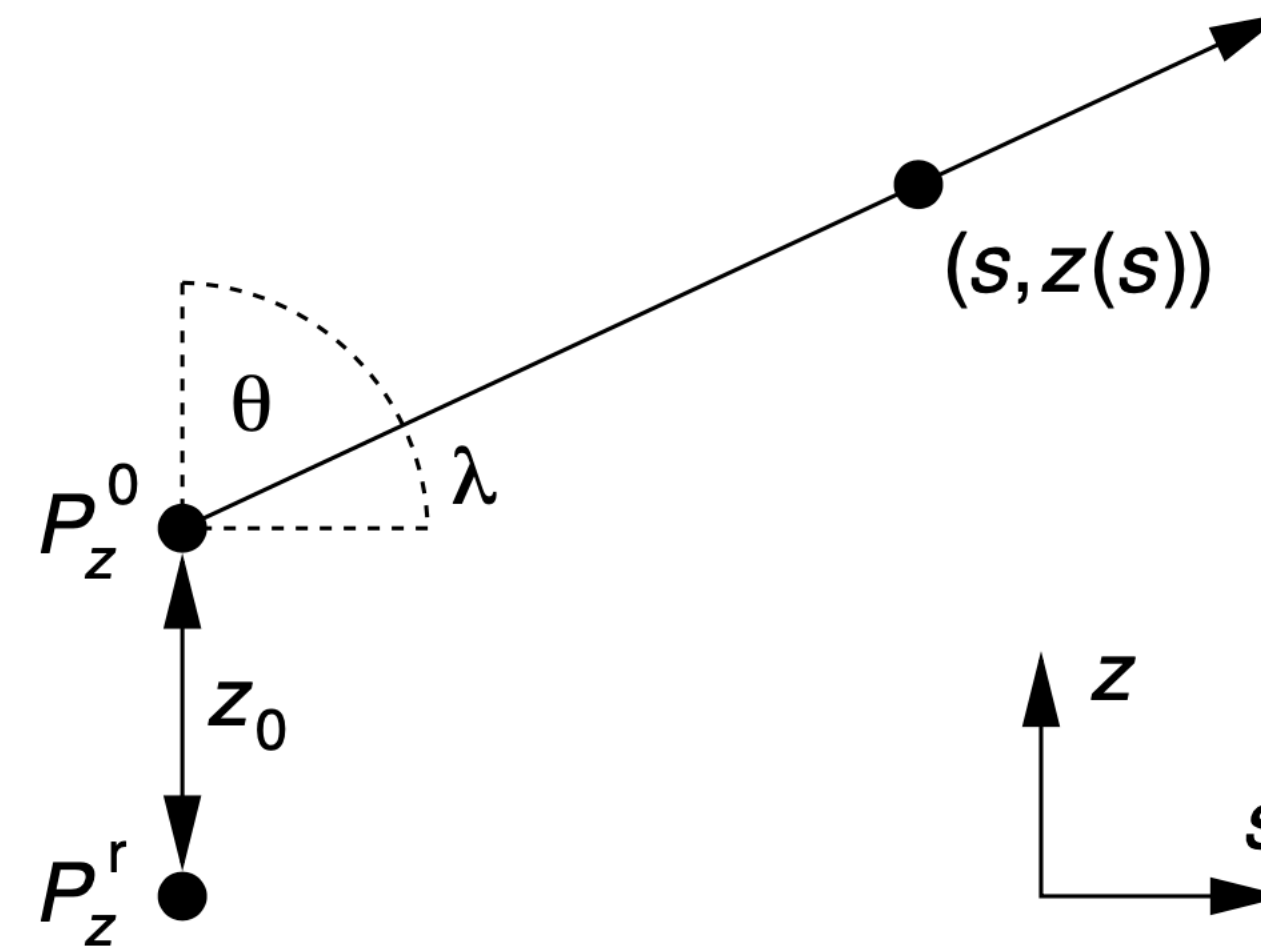


**Figure 1:** The projection of a helix segment in the  $xy$  plane is a part of an arc with centre  $P^c$  and radius  $R$ . The direction of the particle is shown with the arrow at the arc. All track parameters are given relative to the reference point  $P^r$ .



**Figure 2:** The projection of a helix in the  $sz$  plane is a straight line (see Eq. 10). The variable  $s$  at a point  $P$  is the arc length in the  $xy$  plane from  $P^0$  to  $P$ . This also implies that  $s = 0$ , if  $z = z_0$ .