



The diagram illustrates a 2D environment with five purple circular obstacles. A red path, labeled  $x_o$ , starts at the top left and moves right, then down, then right again, ending at the top right. A yellow path, labeled  $x_f$ , starts at the bottom left and moves right, then up, then right again, ending at the bottom right. The paths are composed of straight line segments connecting circular nodes. The obstacles are represented by purple circles with concentric rings inside.

$x_o$

$x_f$