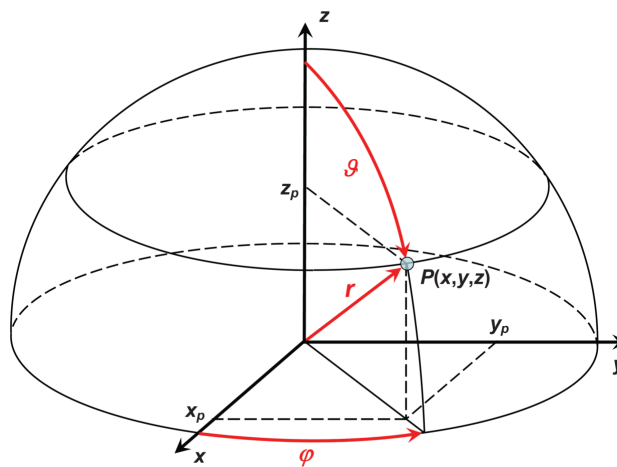


Lesson no. 3

27 February 2023

1. Derive the conversion between Cartesian and spherical coordinates



2. Calculate the surface area of a unit sphere.
3. Calculate the surface area of a spherical cap determined by the angle θ_0 , spherical wedge given by the angle α and spherical segment given by the elevations h_0 and h_1 . What is the result of the intersection of the spherical segment and spherical wedge?