

The diagram illustrates the geometry of a satellite in a circular orbit. The Sun is shown at the top left, with a line indicating the direction towards it, labeled "-X towards the Sun". The orbit plane is shown as a blue elliptical disk, with the "Orbit Plane" label in a white box. The satellite is shown at two positions on the orbit, each with a yellow rectangular solar panel. The satellite's orientation is defined by its local coordinate system (X, Y, Z), where the Z-axis is the "Orbit Normal" (labeled "+ Orbit Normal"). The X-axis is the "in-track" direction, and the Y-axis is the "out-of-track" direction. The angle between the Sun direction and the Z-axis is labeled  $\alpha$ . The angle between the Sun direction and the X-axis is labeled  $\beta$ . The angle between the X-axis and the Y-axis is labeled "Yaw". The diagram also shows the "Noon", "Dawn", "Dusk", and "Midnight" positions relative to the Sun. A black arrow at the bottom indicates the direction of orbital motion.

+ Orbit  
Normal

Sun

# Noon

Dawn

## Midnight

# Dusk

## Orbit Plane

Yaw is rotation from in-track  
to x-body about z-body