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1 SECTION PLACEHOLDDER

1.1 SUBSECTION

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1.2 The Tides

The Tidal Force
this is the shaded area

1.3 The Angular Velocity Vector

The rest of the notes and the chapter will over reference frames that are rotating with respect to the inertial reference frame, so angular velocity has to be used.

Definition 1. Euler's Theorem - The most general motion of any body relative to a fixed point O is a rotation about some axis through O To specify this rotation about a given point O, we only have to give the direction of the axis and the rate of rotation, or angular velocity ω. Because this has a magnitude and direction, it is an obvious choice to write this rotation vector as ω, the angular velocity vector. That is:

$$\omega = \omega \mathbf{u} \tag{1}$$

Where $\mathbf{u}$ is the unit vector

Vector Velocity
The velocity at any point, P (position, r) is given by:

$$v = \omega \ x \ r \tag{2}$$

Addition of Angular Velocities

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