CubeSat Club Meeting 10/14/2010
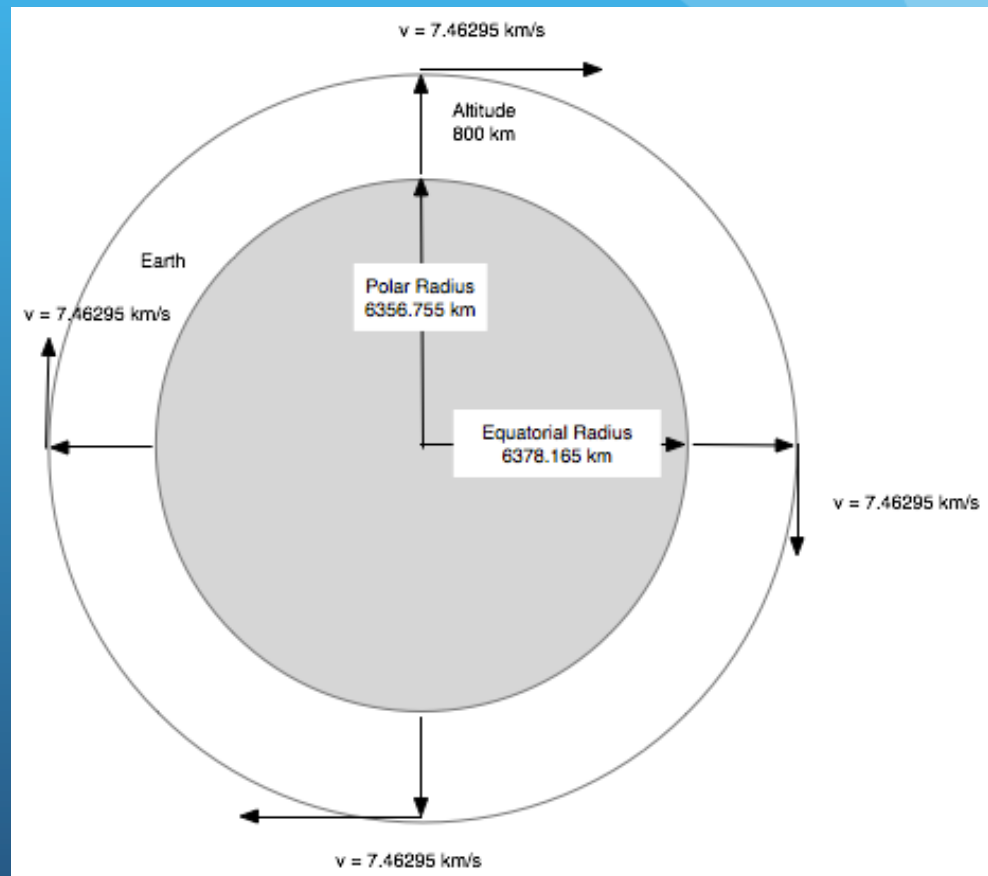
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Last Week

- Gravitational Constant

- Centripetal Acceleration

- Orbital Velocity

Review

- What is μ? What are the units?

- What is centripetal acceleration? In what direction does the centripetal acceleration of a CubeSat point?

- How do you calculate orbital period?

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Review

- μ is the earth's gravitational constant equal to 398600.436 km^3/s^2

- Centripetal acceleration is the acceleration of an object in orbit. A CubeSat's centripetal acceleration points toward the Earth.

- Orbital period is the time it takes to orbit ONCE. It is calculated by dividing the distance or circumference traveled by the velocity.

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Attitude Control

- Pointing in the right direction

- No Propellants!

- Magnetic Torquers

- Reaction wheels

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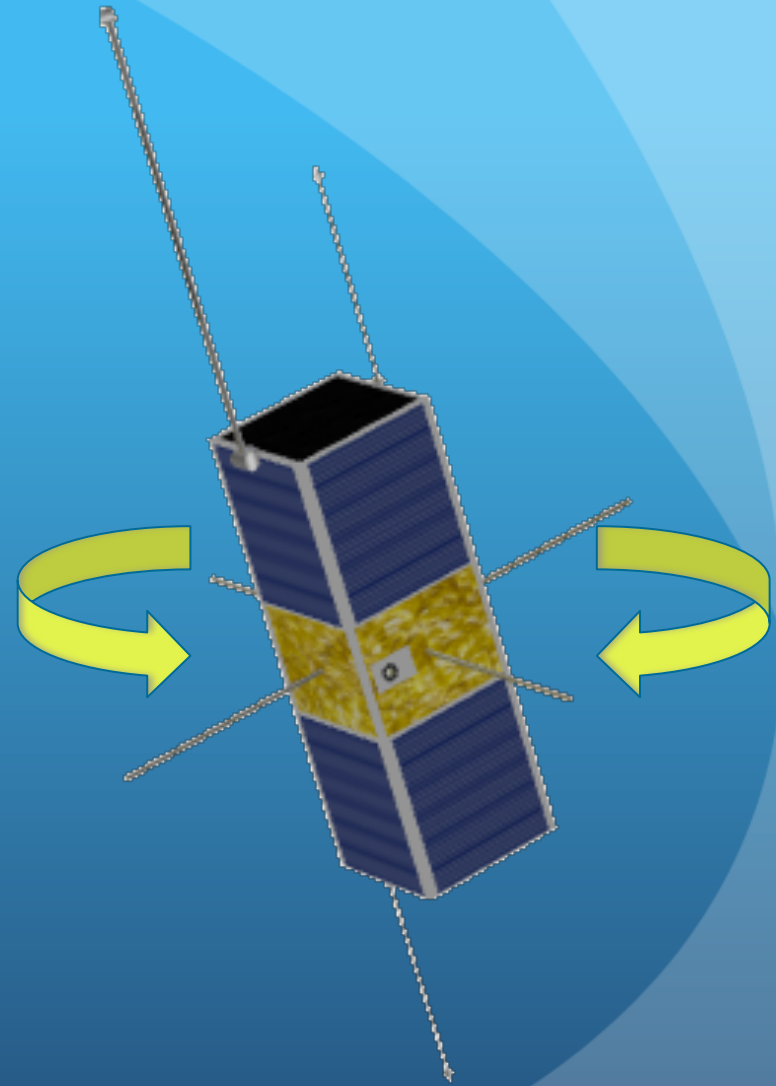
Magnetic Torquer

- Running a current through it gives our CubeSat a magnetic field

- CubeSat magnetic field interacts with Earth's magnetic field

- CubeSat rotates into the right position

- If we are using our reaction wheels then the magnetic torquer slows down the wheels
  - We'll learn about reaction wheels in 2 weeks!