

AE3521

Spring 2004 Homework #9

Due: Monday March 29, 2004 at 9:30am (beginning of class) or before

1. ~~Wiesel chapter 5, problem 4, pp. 162-163.~~ (skip till next week)
2. Wiesel chapter 5, problem 5, p. 163.
3. Wiesel chapter 5, problem 6, p. 163.
4. The Pioneer 4 lunar probe was launched with an initial spin rate of 400 *rpm*. Ten hours after launch, it was desired to reduce this to 5.5 *rpm* by using a yo-yo mechanism with two masses of 5.7 *grams* each. The inertia about the spin axis is 270 $\text{kg}\cdot\text{m}^2$, and the radius of the spacecraft body is 12.7 *cm*. What was the length of the yo-yo chord (one of the two)?
5. Wiesel chapter 5, problem 8, p. 164.



Pioneer 4 Lunar Probe