WebAssign
Lab #12: Angular Momentum (Homework)

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Current Score : 1 / 1 **Due :** Thursday, April 12 2012 11:59 PM EDT

1. 1/1 points | Previous Answers

Consider a rotating platform such as you used in lab. Imagine that it is initially rotating at some angular velocity.

You drop a disk, that is not rotating, onto the top of the rotating platform so that it sticks to the rotating platform and begins rotating along with the rotating platform. The center of the disk coincides with the rotation axis. Assume that the disk has a significant moment of inertia around the rotation axis of the platform, i.e. the z-axis.

For this rotational collision, which of the following should you observe for the total rotating system (platform + object)?

- [x] The total energy of the system is constant.
- [x] The total angular momentum of the system is constant.
- [ ] The kinetic energy of the system is constant.
- [ ] The angular velocity, after the collision, is the same.
- [ ] The angular velocity, after the collision, is larger.
- [x] The angular velocity, after the collision, is smaller.