

## **Rigid Body Dynamics**

3-29-2005







# **Opening Discussion**

- Do you have any questions about the quiz?
- What did we talk about last class?
- Mock programming competition.
  Wednesday starting at 4pm.





# **Gravity Tree**

- The trees that we talked about last class can also be used for doing more distant interactions.
- The way this works is that nodes store information about the collections of particles that are in nodes below them. Instead of doing distant interactions with individual particles, you interact with the averaged collections in higher nodes.





# **Rigid Body Dynamics**

- We can also simulate extended bodies that are rigid/solid. This is different from the particle simulations where the particles are basically point masses or uniform spheres.
- When simulating these bodies we have to include rotational dynamics in addition to translational motion.
- Collisions have to take into account the rotational aspect. The collision detection is also more difficult.



#### Code

Let's put in code to do the lid for our particle simulation. We could also take out forces and do collisions.







### **Minute Essay**

What did we talk about today?
 Remember the mock programming competition tomorrow.

