Lecture 1-15-13

• Chapter 12: Continued:
  – A box on conveyer belt (maximum acceleration)
  – Maximum (min) acceleration (deceleration) of a car
  – Role of friction (stopping relative motion, max level when there is relative motion)
  – Two blocks on the conveyer belt
  – Airplane motion, normal force and contact
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• Chapter 12:
  – problems 12.38 and 12.40
  – Hints on hw problems 12.49
  – Rate speed on a track (example 12.6), maximum and minimum speed before slipping on a track
  – Min and max velocity before slipping on a track
  – Angular momentum and its derivative
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- Angular Momentum
  - Angular momentum definition
  - Review of motion under central force
  - Conservation of angular momentum

- Application to orbital mechanics:
  - the role of initial velocity: circular, elliptic or escape conditions
  - Elliptic orbit properties and Orbit transfer and main equations
  - Circular orbits, elliptical orbits, main equations
  - Orbit transfer