

Advanced engineering dynamics, 5C1150

Hand in assignments, batch 1, HT 2006

Due Wednesday 20/9

- 1) Solve Problem 1.6 at the end of Chapter 1, page 15, in Dynamics of Bodies.
- 2) Solve Problem 2.6 at the end of Chapter 2, page 39, in Dynamics of Bodies.
- 3) Assume that a rigid body is rotated from a reference orientation (where the Euler angles are zero) to a different orientation with Euler angles given by:

$$\psi = yy \text{ degrees, } \theta = mm \text{ degrees, } \varphi = dd \text{ degrees,}$$

where yymmdd are year, month, and day of birth as they appear in your Swedish person number. Write a program that calculates the resulting rotation angle ϕ and the unit vector $(\cos \alpha_1, \cos \alpha_2, \cos \alpha_3)$ of the rotation axis. Use formulas of Chapter 2, and symmetry and anti symmetry of matrices. Use Matlab or Maple or whatever.

(corrected 06 09 11)

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