

Exercise 2: EULER angles

Consider a general rotation

$${}^A\mathbf{R}_B = \text{Rot}[z, \psi] \cdot \text{Rot}[x, \theta] \cdot \text{Rot}[z, \varphi]$$

of a body between the two orientations A and B .

Open the file „Exercise02.m“ and do the following:

- a) Write a function called `rotationmatrixEULER`. The output of the function should be the rotation matrix ${}^A\mathbf{R}_B$. The function arguments are the three angles φ , θ and ψ in degree.
- b) Write a function called `anglesEULER`. This function should be the inverse function to `rotationmatrixEULER`. Thus, it should output the three angles φ , θ and ψ for a given rotation matrix ${}^A\mathbf{R}_B$.
- c) Concatenate the two functions and compare the input and the output of `rotationmatrixEULER(anglesEULER)`.