

Dynamik von Schiffen und Offshore Strukturen

Syllabus SS2022

- Lectures: Thursday, 13-15 pm, R-214 / Prof. Dr.-Ing. habil. Nikolai Kornev
- Exercises: Tuesday, 15-17 pm, R-214 / Luise Draheim, M.Sc.

References

- [1] Kornev N. (2013). Lectures on Ship manoeuvrability. Bookboon Publisher.
- [2] Kornev N. (2012) Ship dynamics in waves. Manuscript.

No.	Date	Lecture
1	07.04.22	General differential equation of ship motion. Chapter 1 [1]
2	14.04.22	Ship manoeuvring theory Chapter 2 [1]
3	21.04.22	Steady and unsteady manoeuvring forces Chapters 4 and 5 [1]
4	28.04.22	Ship rudders Lateral forces on propellers Chapter 5[1]
5	05.05.22	Yaw stability Chapter 8 [1]
6	12.05.22	Experimental methods in manoeuvrability Chapter 9 [1]
7	19.05.22	Modern propulsive manoeuvring systems
8	02.06.22	Ship oscillation equations. Force representation Chapter 1 [2]
9	16.06.22	Oscillations in regular transverse waves Zero ship speed. Chapters 2 and 3 [2]
10	23.06.22	Oscillations in head waves. Sway oscillations Zero ship speed. Slamming Chapter 3 [2]
11	30.06.22	Oscillations in irregular waves Chapter 6 [2]
12	07.07.22	Experimental methods in ship oscillation Chapter 7 [2]
13	14.07.22	Oscillation of offshore structures

No.	Date	Theme	Exercises from the book
1	12.04.22	Ship manoeuvring theory	Exercises 1.5 and 2.7 [1]
2	19.04.22	Added mass	Exercise 3.4 [1]
3	26.04.22	Steady manoeuvring forces	Exercise 4.4 [1] Code Kuwik presentation
4	03.05.22	Ship rudders Steady manoeuvring forces	Exercise 5.3 [1] +Autowing code
5	10.05.22	Ship rudders Forces on propellers	Exercise 6.5 [1] Exercise 7.6 [1]
6	17.05.22	Yaw stability	Exercise 8.9 [1]
7	24.05.22	Simulation in Manoeuvring	Manis Code Beleg
8	31.05.22	Exp. Methods in Manoeuvring	Exercises 9.5 and 10.5 [1]
9	14.06.22	Ship oscillations	Exercises 1.8 and 2.2 [2]
10	21.06.22	Ship oscillations	PDSTRIP code
11	28.06.22	Irregular waves	Derivation of (6.32)-(6.36) [2] Spectra calculations
12	05.07.22	Ship oscillations	Damping of ship oscillations Chapter 8 [2]
13	12.07.22	Parametric oscillations	