

References

Textbooks in fluid PDE

- [1] A. J. Chorin and J. E. Marsden. *A mathematical introduction to fluid mechanics*, volume 4 of *Texts in Applied Mathematics*. Springer-Verlag, New York, third edition, 1993.
(We will follow it for the derivation of Euler and NS.)
- [2] G. P. Galdi. *An introduction to the mathematical theory of the Navier-Stokes equations*. Springer Monographs in Mathematics. Springer, New York, second edition, 2011. Steady-state problems.
(comprehensive treatise on stationary Navier-Stokes equations)
- [3] O. A. Ladyženskaja. *The mathematical theory of viscous incompressible flow*. Second English edition, revised and enlarged. Translated from the Russian by Richard A. Silverman and John Chu. Mathematics and its Applications, Vol. 2. Gordon and Breach Science Publishers, New York, 1969.
(classical book for PDE theory of NS)
- [4] A. J. Majda and A. L. Bertozzi. *Vorticity and incompressible flow*, volume 27 of *Cambridge Texts in Applied Mathematics*. Cambridge University Press, Cambridge, 2002.
(Our main text for Euler equation)
- [5] R. Temam. *Navier-Stokes equations*. AMS Chelsea Publishing, Providence, RI, 2001. Theory and numerical analysis, Reprint of the 1984 edition.
(classical book for PDE theory of NS, for both theoretical and numerical analysis (finite element))
- [6] T.-P. Tsai. *Lectures on Navier-Stokes equations*. Graduate Studies in Mathematics, 192. American Mathematical Society, Providence, RI, 2018.
<http://dx.doi.org/10.1090/gsm/192>
(We will use it for Part 4)

Textbooks in PDE and real analysis

- [7] Lawrence C. Evans, *Partial differential equations*, second ed., Graduate Studies in Mathematics, vol. 19, American Mathematical Society, Providence, RI, 2010.
(1st textbook in PDE)
- [8] Gerald B. Folland, *Real Analysis: Modern Techniques and Their Applications*, 2nd ed., John Wiley and Sons, 1999.
(textbook in real analysis)
- [9] David Gilbarg and Neil S. Trudinger, *Elliptic partial differential equations of second order*, Classics in Mathematics, Springer-Verlag, Berlin, 2001, Reprint of the 1998 edition.
(2nd textbook in elliptic PDE)

[10] E.M. Stein, Singular integrals and differentiability properties of functions. Princeton University Press, 1970.

(textbook in real analysis)

[11] R. L. Wheeden and A. Zygmund, Measure and integral: an introduction to real analysis, Monographs and textbooks in pure and applied mathematics, New York : M. Dekker, 1977.

(textbook in real analysis, everything in \mathbb{R}^n , very concrete)