H-PRINCIPLE

Summer Graduate School, July 1–12, 2024
Tohoku University, Sendai, Japan

As preparation for "h-principle", if you are familiar with manifold theory and vector bundles, you should be able to follow the courses.

The following papers and books contain all necessary materials, and glancing through one of them would give a good indication as to the level of the course. But, they would be much more than what is necessary to begin.

[1] M. Adachi, *Umekomi to hamekomi*, Iwanami Shoten, Tokyo, Japan, 1984, in Japanese. English translation by Kiki Hudson in *Embeddings and immersions*, Translations of Mathematical Monographs **124**, American Mathematical Society, Providence, RI, 1993, ISBN 0-8218-4612-4. MR 1225100. Zbl 0810.57001.

[2] K. Cieliebak, Y. Eliashberg, and N. Mishachev, *Introduction to the h-principle*, 2nd ed., Graduate Studies in Mathematics **239**, American Mathematical Society, Providence, RI, 2024, ISBN 9781470461058, 9781470476175, 9781470476182. MR 4677522. Zbl 7792729. doi: 10.1090/gsm/239.

[3] C. De Lellis and L. Székelyhidi, Jr., High dimensionality and h-principle in PDE, *Bulletin of the American Mathematical Society* (*New Series*) **54** (2017), no. 2, 247–282. MR 3619726. Zbl 1366.35120. doi: 10.1090/bull/1549.

[4] Y. Eliashberg and N. Mishachev, *Introduction to the h-principle*, Graduate Studies in Mathematics **48**, American Mathematical Society, Providence, RI, 2002, ISBN 0-8218-3227-1. MR 1909245. Zbl 1008.58001. doi: 10.1090/gsm/048.

[5] Y. Eliashberg, Recent advances in symplectic flexibility, *Bulletin of the American Mathematical Society* (*New Series*) **52** (2015), no. 1, 1–26. MR 3286479. Zbl 1310.53001. doi: 10.1090/S0273-0979-2014-01470-3.

[6] H. Geiges, *h-principles and flexibility in geometry*, Memoirs of the American Mathematical Society **164:**779, American Mathematical Society, Providence, RI, 2003. MR 1982875. Zbl 1050.53001. doi: 10.1090/memo/0779.

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Bibliography by Takashi Tsuboi.