July 11, 2023
Kotaro Yamada
kotaro@math.titech.ac.jp

Info. Sheet 5; Advanced Topics in Geometry F1 (MTH.B506)

Information

- Please fill the form "Course Survey" in T2SCHOLA.

Corrections

- Lecture note, page 20, line 11: lecturethe ⇒ lecture the
- Lecture note, page 20, 5th line of Theorem 4.5: $\mathrm{SO}(n) \Rightarrow \mathrm{SO}(m)$ (2 times)
- Lecture note, page 21, 5th line of Theorem 4.7: $\mathrm{SO}(m) \Rightarrow \mathrm{SO}(n)$ (2 times)
- Lecture note, page 21, 2nd line of Theorem 4.8: $U \rightarrow M$
- Lecture note, page 22, 4th line of the proof of Theorem 4.1: Hene ⇒ Hence

Q and A

Q 1: (M, g): 平坦を Levi-Civita 接続 ∇ の曲率形式 $K = 0$ と定義した．これは接続 ∇ が平坦という意味でしょうか．（(M, g)：平坦の定義は，接束 TM が平坦な接続を持つことだと思っているため）

A: A Riemannian manifold (M, g) is said to be flat if the Levi-Civita connection is flat. For example, the hyperbolic plane $H^2(-1)$ is non-flat as a Riemannian manifold, although its tangent bundle can have a flat connection.