

The Whitney Embedding Theorem

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Abstract

The question as to whether or not there are abstract smooth manifolds that are not diffeomorphic to embedded submanifolds of Euclidean space has been nagging mathematicians since the notion of abstract manifold was first introduced until Whitney answered it in 1936. It turns out that there are not. In this seminar we will present a proof of The Whitney Embedding Theorem, which indeed states that every smooth n -manifold with or without boundary admits a proper smooth embedding into $\mathbb{R}^{2n+1}$. In most presentations the proof requires a couple of preliminary lemmas and that's the route we will follow.

References

- [1] John M. Lee. *Introduction to Smooth Manifolds*. Springer, 2002.