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Oberseminar Dynamische Systeme

A geometric computation of cohomotopy sets in codegree one

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16:15 Uhr – Raum IA 1/181

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Abstract:

It is a classical fact that for closed manifolds X the homotopy classes of maps $X^n \rightarrow S^n$ are classified by their degree. The Pontryagin-Thom construction provides a similar construction when X and the sphere have different dimensions, and thus generalizes the notion of degree. In particular, the homotopy classes of maps $X^{n+1} \rightarrow S^n$ are in one-to-one correspondence with framed circles up to framed cobordism in X , and the corresponding set comes equipped with a group structure. In this talk, we introduce the Pontryagin-Thom construction and the concept of framed cobordism classes, and we compute the group of homotopy classes $X^{n+1} \rightarrow S^n$ in terms of topological information of X .

Guests are very welcome!