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„Tautological characteristic classes of aspherical manifolds."

Abstract:
I will present a vanishing theorem for tautological characteristic classes of manifold bundles with high dimensional, aspherical fibres and a few surprising consequences. The result is in stark contrast to the work of Galatius and Randal-Williams, who recently described a sizeable part of the cohomology rings of the classifying space of diffeomorphism groups of high-genus manifolds using such classes. Along the way I will review the known computations of diffeomorphism groups of aspherical manifolds. The project is joint work with Markus Land, Wolfgang Lück and Oscar Randal-Williams.