Bernoullis Tafelrunde

Graduate Student Seminar

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Seminarraum 05.002, Spiegelgasse 5

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Abstract

A vector bundle is a family of vector spaces which is parametrized by a base space. By the generality of this definition, they appear naturally from theoretical physics and they are classical objects in geometry. However, it is a very ambitious goal to understand them all (like catching all the Pokémons) and there exist only partial results. In this talk I will try to present (under the analytic viewpoint, and only elementary linear algebra is required) some known classifications of vector bundles, particularly when the base space is the projective line or an elliptic curve. These results are due to Grothendieck and Atiyah from the last century.