

Mathematical Colloquia

Monday, 08 April 2019

17:15 h, Lecture Room 119

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The Linearization Problem

Abstract:

Given a reductive group $G=K^{\mathbb{C}}$ (K maximal compact subgroup) acting algebraically/holomorphically on \mathbb{C}^n .

Is there an algebraic / holomorphic change of variables which conjugates the action of G into a linear action?

We review the history mainly of the holomorphic part of the problem. In particular we mention the counterexamples to the problem found by Derksen and the speaker. Then we explain recent positive results of Larusson, Schwarz and the speaker. The upshot of these results is that the method of constructing counterexamples found by Derksen and the speaker is the only possible method.