

BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

Monday, 16 May 2022, 12:15-13:00

Hybrid seminar

Seminar room 05.001, Spiegelgasse 5 / Zoom

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Universal equations for isotropic Grassmannians

ABSTRACT

The Grassmannian $Gr(k, V)$ parametrizes the k -dimensional subspaces of a vector space V , and it pops up in many different areas of mathematics. One of its basic algebro-geometric properties is that through the famous Plücker embedding the Grassmannian can be seen as a projective variety whose defining equations are quadrics known as the Plücker relations.

In the first part of my talk I will present a result by Kasman et al. which shows that the Grassmannian $Gr(k, V)$ can be defined by pulling back the Plücker relations of $Gr(2, 4)$. Then I will introduce the notion of isotropic Grassmannians and show that an analogous universality result holds, i.e. that any maximal isotropic Grassmannian in its Plücker embedding can be defined by pulling back the equations of $Gr_{iso}(3, 7)$ or $Gr_{iso}(4, 8)$.