



Leibniz
Universität
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Oberseminar Algebraische Geometrie

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Hodge cycles for cubic hypersurfaces

Despite the abundant examples of Hodge cycles in the literature, finding them for smooth hypersurfaces of even dimension n is extremely difficult (of course if you do not pick up an algebraic cycle). In this talk I will describe a computer assisted project in order to detect instances in which the deformation space of an algebraic Hodge cycle inside a hypersurface is larger than the deformation space of the expected algebraic cycle. One easy example is a Veronese algebraic cycle inside a cubic six fold. A more difficult and conjectural example is an algebraic Hodge cycle which is the sum of two projective spaces of dimension $n/2$ (lines for $n=2$ and planes for $n=4$) inside a Fermat cubic n -fold. The talk is based on Chapter 19 of my book "A Course in Hodge Theory: with Emphasis on Multiple Integrals" which is also available in arXiv:1902.00831.

Dienstag, 26.07.2022, 11:00-12:00 in B302

Alle Interessierten sind herzlich eingeladen.