Leibniz Universität Hannover

Oberseminar
Institut für Algebraische Geometrie

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On zero-cycles of varieties over Laurent fields

To any strictly semi-stable degeneration of varieties over a Laurent ring $k[[t]]$, we associate a natural 4-term complex of abelian groups which involves the Chow groups of the components of the special fibre. Our main result concerns the universal exactness of this complex, i.e. the question whether the complex is exact after any base change to $L[[t]]$ for some field extension L/k. As a consequence of our result, we conclude for instance that the failure of universal exactness of this complex is an obstruction to retract rationality of the geometric generic fibre of the family. This generalizes previous work of Pavic and Schreieder with toric geometry as the key new ingredient. As another application of our main result, we compute the Chow group of zero-cycles of geometrically retract rational varieties over Laurent fields that admit a strictly semi-stable model over the Laurent ring.

Donnerstag, 04.04.2024, 16:30 - 17:30, F142.
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Alle Interessierten sind herzlich eingeladen.