

Algebraic Geometry Seminar

Two stabilizations in algebraic geometry: Hurwitz spaces and Bott periodicity

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Abstract: A recurring theme in geometry and topology is that moduli spaces become better and better behaved "in the limit".

(i) Stabilization of the Grothendieck ring is one algebro-geometric analogue of stabilization in topology. After briefly introducing stabilization in the Grothendieck ring (joint with Wood), I will describe how it applies to low-degree Hurwitz spaces (in analogy with Bhargavology), which is made simpler thanks to powerful ideas of Bilu and Howe. (This is joint with Landesman and Wood.)

(ii) H. Larson recently completely described (integrally) the "characteristic classes" of vector bundles on P^1 -bundles, in the Chow ring. Bott periodicity relates vector bundles on a topological space X to vector bundles on $X \times S^2$: the "moduli space" BU of complex vector bundles is "basically the same as" the "moduli space" maps of a sphere to BU . I will try to explain an algebro-geometric incarnation of Bott periodicity. (This is work in progress with H. Larson.)

Monday, March 15 at 3:00 PM in Zoom