The morphic Abel-Jacobi map

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Abstract

The morphic Abel-Jacobi map is defined in much the same way as is the usual Abel-Jacobi map, except that one uses Lawson homology (viewed as a filtered inductive limit of mixed Hodge structures) in place of the usual singular homology. In this talk, I will explain how the morphic Abel-Jacobi map is able to detect cycles that vanish under the classical Abel-Jacobi map, by building on examples due to Nori, Friedlander, and Schoen. I also discuss the behavior of the morphic Abel-Jacobi map on torsion cycles.