

ALGEBRA
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Berkovich Spaces and Dual Complexes of Degenerations

Enrica Mazzon
Imperial College

Abstract: In the late nineteen-nineties Berkovich developed a new approach to non-archimedean analytic geometry. This theory has quickly found many applications in algebraic and arithmetic geometry. In particular it turned out that there are strong connections between Berkovich spaces and the birational geometry of varieties.

In this talk, I will introduce the central objects of this theory: degeneration of varieties, dual complexes and essential skeletons. As an application, I will explain how the non-archimedean approach applies to the study of some degenerations of hyper-Kähler varieties, giving new results in accordance with the predictions of mirror symmetry. This is joint work with Morgan Brown.

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