

# Dual complexes of degenerations and Berkovich geometry

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To a degeneration of varieties, we can associate the dual intersection complex, a topological space that encodes the combinatoric of the central fiber and reflects the geometry of the generic fiber. The points of the dual complex can be identified to valuations on the function field of the variety, hence the dual complex can be embedded in the Berkovich space of the variety. In this talk I will explain how this interpretation gives an insight in the study of the dual complexes. I will focus on some degenerations of hyper-Kähler varieties and show that we are able to determine the homeomorphism type of their dual complex using techniques of Berkovich geometry. The results are in accordance with the predictions of mirror symmetry, and the recent work about the rational homology of dual complexes of degenerations of hyper-Kähler varieties, due to Kollár, Laza, Saccà and Voisin. This is joint work with Morgan Brown.