

New Perspectives on Hyperkähler Manifolds - A Celebration of Dimitri Markushevich's (60+2)nd Birthday

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Moduli spaces as Irreducible Symplectic Varieties

Tuesday, 14 June 2022 14:30 (1 hour)

Recent developments by Druel, Greb-Guenancia-Kebekus, Horing-Peternell have led to the formulation of a decomposition theorem for singular (klt) projective varieties with numerical trivial canonical class. Irreducible symplectic varieties are one of the building blocks provided by this theorem, and the singular analogue of irreducible hyper-Kähler manifolds. In this talk I will show that moduli spaces of Bridgeland stable objects on the Kuznetsov component of a cubic fourfold with respect to a generic stability condition are always projective irreducible symplectic varieties. This builds on the recent work of Bayer-Lahoz-Macri-Neuer-Perry-Stellari, which, ending a long series of results by several authors, proved the analogue statement in the smooth case.

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