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On the even-odd instanton correspondence for Fano threefolds

Friday, 17 June 2022 11:30 (1 hour)

Instanton bundles carry rich geometric data of a Fano threefold X. For instance, for low charge their moduli spaces are related to the fibres of the period map: this was shown by A. Iliev and D. Markushevich for threefolds of genus 8 – we will review ongoing work with A. Verra for the case of genus 10.

Depending on the parity of the index of X, these bundles exhibit different behaviour, yet their moduli spaces share some common features which I will review, starting with the monadic description.

A conjecture of A. Kuznetsov implies that, for some specific charges, there should be a correspondence between even and odd instantons moduli inducing a birational transformation of the associated projective bundles over threefolds having equivalent Kuznetsov categories. I will discuss work in progress with S. Zhang and S. Feyzbakhsh about this conjecture for genus 10 and 12.

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