UiO : Department of Mathematics
University of Oslo

Join of hexagons and Calabi–Yau threefolds

Public defence

Fredrik Meyer

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Outline of the thesis

- Unsuccessful attempt to find new hyper-Kähler varieties.

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- The topology of $C(\mathrm{dP}_6)$.
- New Calabi–Yau varieties and potential mirror partners.

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Dette er en boks hvis bredde er 0.3 av skjermbredden, og der hjørnet øverst til venstre er 0.25 av skjermbredden fra venstre kant og 0.22 av skjermhøyden fra toppen.

Calabi–Yau manifolds

Definition (Calabi–Yau variety)

A Calabi–Yau variety is a smooth projective scheme $X/\mathbb{C}$ of dimension 3 satisfying:

- $H^0(X, \mathscr{O}_X) = H^3(X, \mathscr{O}_X) = k$ and $h^1(X, \mathscr{O}_X) = h^2(\mathscr{O}_X) = 0$.
- The canonical sheaf is trivial: $\omega_X \simeq \mathscr{O}_X$.

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