

## F-theory on mirror dual Calabi-Yaus

*Thursday 24 September 2020 16:50 (20 minutes)*

In this work we consider pairs of elliptic Calabi-Yau threefolds, related by mirror symmetry that factorizes between fiber and base.

Extending work of Berglund and Mayr, this allows us to deduce the mirror dual base and fibration structures which we use to build up a dictionary between two different F-theory SUGRA theories:

The mirror acts as a quotient on the base while local gauge group factors get exchanged by their commutant in E8.

We use this dictionary to explore Higgs and Coulomb branches in the dual theories by exploiting their inverse interpretations. This allows us to deduce the origin of non-Higgsable  $U(1)$ 's and Higgs branches of superconformal field theories with and without non-trivial global structures.

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**Session Classification:** Strings & Mathematical physics session on Zoom and in Main Auditorium.

**Track Classification:** Strings & Mathematical Physics