

# ***$G_2$ geometry, twistor theory, and cuspidal cubics***

## Abstract:

We establish a twistor correspondence between seven-parameter families of rational curves in a surface, and certain  $G_2$  structures on moduli spaces of such curves. There are several explicit examples, e.g. the space of all cuspidal cubic curves in  $P^2$  gives rise to a homogenous co-calibrated  $G_2$  structure on  $SU(2, 1) / U(1)$ .

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