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Flags and twistors revisited

Abstract

We study curves and surfaces in the complex 3-dimensional flag manifold $F = SU(3)/T^2$, subject to unitary equivalence and relative to the non-holomorphic (twistor) projection to the projective plane CP^2. One aim is to classify real discriminant loci and resulting orthogonal complex structures on CP^2, with close analogy to the Penrose fibration $CP^3 \to S^4$. This is joint work with A. Altavilla, E. Ballico, C. Brambilla, and also relies on past ideas developed with J. Eells and F. Burstall.