

Dual elliptic structures on \mathbf{CP}^2

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Abstract. We define the notion of tame elliptic structure E on \mathbf{CP}^2 , which generalizes an almost complex structure J on which the standard symplectic form is positive. An E -curve is a surface in V which is everywhere tangent to E (J -holomorphic in the almost complex case), and an E -line is an E -curve of degree 1. We show that the space V^* of E -lines is itself a complex projective plane with a tame elliptic structure E^* . Moreover, to each E -curve one can associate its dual in V^* , which is an E^* -curve. This implies that the E -curves, and in particular the J -curves, satisfy the Plücker formulas, which restricts their possible sets of singularities.

References

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