

Conic Bundles on Rational Elliptic Surfaces

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Abstract:

Let X be a rational surface over an algebraically closed field of any characteristic. We say X is elliptic if there is a surjective morphism $\pi : X \rightarrow \mathbb{P}^1$ whose general fiber is an elliptic curve. A conic bundle on X is a morphism $\varphi : X \rightarrow \mathbb{P}^1$ whose general fiber is isomorphic to a smooth, plane conic. Given π one can classify all possible fibers of φ and understand how the fiber configuration of π affects the possibilities for φ . In this talk we state this classification and exhibit visual, constructive examples.