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Primitive Enriques varieties

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The notion of an Enriques manifold was introduced by Oguiso-Schröer as a complex manifold which is not simply connected and whose universal covering is an irreducible symplectic manifold. From the viewpoint of birational geometry, we want to understand its behaviour under Minimal Model Program (MMP) operations. Based on the result of Lehn-Pacienza showing that any MMP starting from a primitive symplectic variety terminates, it is natural to introduce the singular analog of Enriques manifolds as finite quasi-étale quotients of primitive symplectic varieties by nonsymplectic group actions, which are called primitive Enriques varieties. In this talk, we will give examples of primitive Enriques varieties and outline some basic properties of them. We will then focus on their behaviour under MMP and small deformations. In particular, we will show that the class of primitive Enriques varieties is stable under MMP and that we have a local Torelli theorem for such varieties. This talk is based on joint works with Francesco Denisi, Ángel David Ríos Ortiz and Nikolaos Tsakanikas.

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