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Gorenstein stable surfaces with $K_X^2 = 2$ and $\chi(\mathcal{O}_X) = 4$

BEN ANTHES

Abstract. We define and study a concrete stratification of the moduli space of Gorenstein stable surfaces X satisfying $K_X^2 = 2$ and $\chi(\mathcal{O}_X) = 4$, by first establishing an isomorphism with the moduli space of plane octics with certain singularities, which is then easier to handle concretely. In total, there are 47 non-empty strata with altogether 78 components.

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