

Stevens, Jan

Sextic surfaces with 10 triple points. (English) [Zbl 1105.14052](#)

Lossen, Christoph (ed.) et al., Singularities and computer algebra. Selected papers of the conference, Kaiserslautern, Germany, October 18–20, 2004 on the occasion of Gert-Martin Greuel's 60th birthday. Cambridge: Cambridge University Press (ISBN 0-521-68309-2/pbk). London Mathematical Society Lecture Note Series 324, 315-331 (2006).

The author classifies all the sextic surfaces with ten isolated triple points, the maximal number possible. This work extends and completes the study started by *S. Endrass*, *U. Persson* and *J. Stevens* [*J. Algebr. Geom.* 12, No. 2, 367–404 (2003; [Zbl 1097.14030](#))], where sextics with nine triple points are studied. The author shows that a sextic with ten triple points is a degeneration of a surface with nine triple points, hence it is contained in one of the five families described by Endrass, Persson and Stevens [loc. cit.]. By imposing the vanishing of the equation and of the first and the second derivatives at a tenth point the author find four different three dimensional families of sextics with ten triple points. For the computations he uses the computer algebra program SINGULAR. These families are distinguished by the number of (-1) -curves, which ranges from two to five.

For the entire collection see [[Zbl 1086.14001](#)].

Reviewer: [Alessandra Sarti \(Mainz\)](#)

MSC:

- [14J17](#) Singularities of surfaces or higher-dimensional varieties
- [14J10](#) Families, moduli, classification: algebraic theory
- [14J26](#) Rational and ruled surfaces

Cited in 1 Document

Keywords:

sextic surface; triple point; Cremona transformation

Software:

[SINGULAR](#)