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The variety of infinitely near points of order n to points of the plane. (Variété des points infiniment voisins d'ordre n de points du plan.) (French. Abridged English version)

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C. R. Acad. Sci., Paris, Sér. I 314, No. 7, 541-545 (1992).

For each integer $n \geq 1$, a variety S_n is defined, which parametrizes the infinitely near points of order n , to points of the projective plane P : one has $S_1 = P$, $S_{n+1} = \text{Proj}_{S_n} E_n$, with E_n a locally free \mathcal{O}_{S_n} -module of rank two. A divisor Y_n of S_n and an embedding of $S_n - Y_n$ in the Hilbert scheme $\text{Hilb}_n P$ are described, S_4 is studied more closely and some results of Halphen for the number of points of a plane curve satisfying a given differential equation are interpreted.

MSC:

14B10 Infinitesimal methods in algebraic geometry
14C05 Parametrization (Chow and Hilbert schemes)

Cited in 1 Review
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infinitely near points; Hilbert scheme