

Quadratic Points in Projective 3-Space

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Quadratic points of a surface in the projective 3-space are the points which can be exceptionally well approximated by a quadric. They are also singularities of a 3-web in the elliptic part and of a line field in the hyperbolic part of the surface. We show that generically the index of the 3-web at a quadratic point is $\pm 1/3$, while the index of the line field is ± 1 . From the above local results we can conclude some global results: A generic compact elliptic surface has at least 6 quadratic points, a compact elliptic surfaces with semi-homogeneous cubic forms has at least 2 quadratic points and the number of quadratic points in a hyperbolic disc is odd. This is a joint work with Ronaldo A.Garcia.

References

- [1] M.CRAIZER, R.A.GARCIA , *Quadratic points in projective 3-space* , to appear in Quarterly Journal of Mathematics