

Seminari de Geometria Algebraica 2009/2010 (UB-UPC)

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<http://atlas.mat.ub.es/sga>

On the second Gaussian map for curves

Paola Frediani

Università di Pavia

I will report on some results obtained in collaboration with Elisabetta Colombo and Giuseppe Pareschi on the rank of the second gaussian map for curves, in relation with the second fundamental form of the period map. I will mainly concentrate on the case in which the curve lies on an abelian surface or on a $K3$ surface. In fact, we proved that if a curve is a hyperplane section of an abelian surface, the second gaussian map is not surjective, while for general hyperplane sections of high genus ($g > 152$) of general polarized $K3$ surfaces, it is surjective.
