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Abstracts of Short Communications and Posters

Section:

4. Algebraic Geometry

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Poster Presentation: $H_{2,2}$-Kummer surfaces associated to polarized abelian surfaces of type (1,3).

Let $H_{2,2}$ be the Heisenberg group of level 2. In [BN] a threefold $M \subset \mathrm{Gr}(1,3)$ and a quintic hypersurface $\mathcal{N} \subset \mathbf{P}_4$ have been introduced. By passing to the quotient with $H_{2,2}$ a map $\nu : M/H_{2,2} \to \mathcal{N}$ which is only defined on an open part of $\mathcal{N}$, $\mathcal{N}^s$. Similarly, one defines an open part M^s of M. We define ν for $\mathcal{N}^s$ so that to each point of $M^s/H_{2,2}$ there corresponds a $H_{2,2}$-Kummer surface containing a line corresponding to this point. We describe explicitely the ramification locus of ν as a codimension one subvariety of $\mathcal{N}$. Using [§6 of BN] $M^s/H_{2,2}$ is identified with an open part of $\mathcal{A}_{(1,3)}(2)$, the moduli space of polarized abelian surfaces with a level 2-structure. We describe explicitely the subvarieties of the above moduli space with the subvarieties of the ramification locus of ν as has been recently described in a recent joint paper [HNS].

References [BN] Barth, W. Nieto, I. Abelian surfaces of type (1,3) and quartic surfaces with 16 skew lines, Journ. alg. geom. 1994, 173-222.

[HNS] Hulek, K., Nieto, I., Sankaran, G. Heisenberg Invariant Kummer Surfaces I, preprint U. of Bath, 1998.