

Bert van GEEMEN, Milano

A very special EPW sextic

Recently Donten-Bury and Wiśniewski constructed an IHS (irreducible holomorphic symplectic manifold) as a desingularization of the quotient of an abelian fourfold by a finite group. In collaboration with them and with Grzegorz and Michał Kapustka, we show first of all that the abelian fourfold has a natural principal polarization and as such is isomorphic to the Debarre-Varley abelian fourfold. The IHS is a double EPW-sextic, and this sextic has a singular locus consisting of 60 planes, 20 of which form a complete family of incident planes. Moreover, we show that the DBW IHS is birationally isomorphic to the Hilbert square of Vinberg's K3 surface, which is a double cover of the projective plane branched over a special configuration of six lines.