

THEMATIC SESSION: New Trends in algebraic Geometry

\mathbb{Z}_2^k -covers and explicit compactification of two components of the moduli space of surfaces of general type with $p_g = 0$

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We consider two classes of surfaces of general type with $p_g = 0$:

- Campedelli surfaces with fundamental group \mathbb{Z}_2^3 ,
- Burniat surfaces with $K^2 = 6$.

Both are realized as \mathbb{Z}_2^k -covers of (a blow-up of) the plane and give rise to connected components of the moduli space of surfaces of general type. We give a complete description of the closure of these components in the KSBA moduli space of stable surfaces. All limit surfaces are obtained as (mostly non-normal) \mathbb{Z}_2^k -covers. This is joint work with Valery Alexeev.