

Interesting Topological Spaces in Algebraic Geometry

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Contents

1 Ideas for Spaces

1

1 Ideas for Spaces

- Curves
 - Elliptic Curves
 - Higher genus
 - Hyperelliptic curves
- Surfaces
 - Compact Riemann surfaces
 - * Bolza Surface (Genus 2)
 - * Klein Quartic (Genus 3)
 - * Hurwitz Surfaces
 - Kummer surfaces
 - Del Pezzo surfaces
- Compact Complex Surfaces
 - Rational ruled
 - Enriques Surfaces
 - $K3$
 - * Kahler Manifolds
 - Kodaira
 - Toric
 - Hyperelliptic
 - Properly quasi-elliptic
 - General type
 - Type VII
- Fake projective planes
- Conics
- Calabi-Yau manifolds
- Hurwitz schemes
- Topological galois groups, e.g. $G(\bar{F}/F)$ for $F = \mathbb{Q}, \mathbb{F}_p$.

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- $\operatorname{Spec}(R)$ for R a DVR (a Sierpinski space)
 - Quiver Grassmannians
 - Rigid analytic spaces
 - Affine line with two origins
 - Moduli stack of elliptic curves $\mathcal{M}_{1,1}$.