Interesting Topological Spaces in Algebraic Geometry

D. Zack Garza

Monday 27^{th} July, 2020

Contents

1 Ideas for Spaces 1

1 Ideas for Spaces

- Curves
 - Elliptic Curves
 - Higher genus
 - Hyperelliptic curves
- Surfaces
 - Klein Quartic
 - Compact Riemann surfaces
- Fake projective planes
- Conics
- Elliptic Curves
- Kahler Manifolds
- K3 Surfaces
- Del Pezzo surfaces
- Hurwitz schemes
- Topological galois groups, e.g. $G(\overline{F}/F)$ for $F = \mathbb{Q}, \mathbb{F}_p$.
- Spec (R) for R a DVR (a Sierpinski space)
- Quiver Grassmannians
- Rigid analytic spaces