

# SOME TITLE GOES HERE...

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## 1. INTRODUCTION

Throughout we work over the field of complex numbers  $\mathbb{C}$ .

**Q.1 Fano varieties/ 3-folds: if former then discuss dim 1,2 situation(necessary?), if latter just discuss 3-folds examples** A nonsingular projective variety  $X$  is called a *Fano Variety* if the anticanonical divisor  $-K_X$  is ample. In this paper/article, we aim to understand/see the classification of Fano 3-folds.

The following definitions and properties follow [Isko-1](#). For any Cartier divisor  $D$  on a variety  $X$ ,  $\mathcal{O}_X(D)$  will denote the corresponding invertible sheaf, and, in particular,  $\mathcal{O}_X(-K_X)$  is the canonical sheaf on  $X$  where  $-K_X$  is the canonical divisor of  $X$ .

**Q.2 Complete linear system,  $h^i(X)$ , Proposition 1.3, build upto Prop 1.6 & as a consequence genus, and the following para-  $\text{NS}(X) = \text{Pic}(X)$  has no torsion,  $\rho = b_2$ , fundamental divisor  $H$ , index. Then Def 1.13 for degree.**

Notations, definition(index,  $\rho$ , degree, etc.), basic examples, goal(s), other preliminaries about invariants, definitions, etc.

## 2. FANO THREEFOLDS WITH $\rho = 1$

$V_d$  notation, etc that will be used in next section

## 3. FANO THREEFOLDS WITH $\rho \geq 2$

Follow goodnotes file: primitive and imprimitive classification separately, basically follow Mori and Mukai

**Q. Tables???**

## 4. REFERENCES