

Base point free reading notes

Spring 2025

Note 0 — 06, 06, 2024 (draft version)

Yi Li

1 Overview

The aim of this series of notes is to summarize recent developments in the Kähler minimal model program. We will divide the discussion into several topics. This note is intended as an overview of what is currently known about the Kähler minimal model program, and it briefly sketches some important ideas that appear along the way.

Contents

1 Overview	1
2 Cone Theorems	1
3 Contraction Theorems	2
4 Base Point Freeness	2
5 Rational Curves on Kahler varieties	2
6 Projectivity Criterion for Kähler Varieties	2
7 Canonical Bundle Formulas	2
8 Abundance Conjecture for Kahler varieties	2

2 Cone Theorems

The original proof of cone theorem requires the Mori bend and break techniques. Unfortunately, it remains an open question for Kähler manifold. And

3 Contraction Theorems

4 Base Point Freeness

5 Rational Curves on Kahler varieties

6 Projectivity Criterion for Kähler Varieties

7 Canonical Bundle Formulas

8 Abundance Conjecture for Kahler varieties

References