

Algebraic Geometry - Mariusz Koras in memoriam

Warsaw, 28.05.2018 - 01.06.2018



## NORMAL LOG CANONICAL DEL PEZZO SURFACES OF RANK ONE

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ABSTRACT. De-Qi Zhang initiated the systematic study of log del Pezzo surfaces of rank one in 1980s. It has been used to study many properties of such surfaces. In 2009, I and Takeshi Takahashi proved that Zhang's fundamental results on log del Pezzo surfaces of rank one hold true for normal del Pezzo surfaces of rank one with rational singular points. In this talk, I will report our recent progress on normal del Pezzo surfaces of rank one with rational singular points. In particular, I will give some partial classification results of normal log canonical del Pezzo surfaces of rank one by using results of Karol Palka on  $\mathbb{Q}$ -homology planes.