SOME CASES OF THE CAMPANA'S ORBIFOLD CONJECTURE FOR $\mathbb{P}^n(\mathbb{C})$

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Abstract: In the recent paper by Ji Guo and Julie Tzu-Yueh Wang, the following theorem regarding Campana's conjecture for $\mathbb{P}^2$ and its ramified covers with at least three components admitting sufficiently large multiplicities was proved:

Theorem[Guo-Wang, *Trans. AM.S* (2024)]. *Let Δ_0 be an orbifold divisor of $\mathbb{P}^2(\mathbb{C})$ and let H_1, H_2, H_3 be three distinct lines in $\mathbb{P}^2(\mathbb{C})$, such that Δ_0 and H_1, H_2, H_3 are in general position. Let $m_i \in (1, \infty) \cap \mathbb{Q}$, $1 \le i \le n$, and $\Delta = \Delta_0 + (1 - \frac{1}{m_1})H_1 + (1 - \frac{1}{m_2})H_2 + (1 - \frac{1}{m_3})H_3$. Assume that $\deg \Delta > 3$. Then there exists a proper Zariski closed subset W of $\mathbb{P}^2(\mathbb{C})$ and an effectively computable positive integer ℓ such that the image of any orbifold entire curve $f : \mathbb{C} \to (\mathbb{P}^2, \Delta)$ with $\min\{m_1, m_2, m_3\} \ge \ell$ must be contained in W.*

In this talk, we discuss how to obtain a general result for $n \ge 2$. This is a joint work with Julie Tzu-Yueh Wang.