

Rationality constructions for cubic hypersurfaces

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Recently, there have been a flurry of constructions of rational cubic fourfolds due to Addington, Lai, Russo, Staglianò, Tschinkel, Várilly-Alvarado, and others. These support Kuznetsov's conjectural rationality criterion but also focus attention on specific cases where rational parametrizations remain unknown. We discuss the outlook for these examples, with a view toward recent progress in the geometry of hyperkähler manifolds associated with cubic fourfolds.