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On the local solubility of multidimensional Hilbert-Kamke's problem

Waring's problem is about representations of integers as sums of fixed powers, and Hilbert-Kamke's problem is about a system of Diophantine equations of Waring's type. Motivated by the asymptotic estimates for multidimensional Waring's problem, we consider multidimensional analogues of Hilbert-Kamke's problem. We proved that the corresponding singular series is bounded below by an absolute positive constant without any nonsingular local solubility assumption. The number of variables we need is near-optimal. This is joint work with Wentang Kuo and Xiaomei Zhao.