# Solutions to the Monge-Ampère equation with polyhedral and Y-shaped singularities

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**Abstract**

Abstract: We will discuss examples of functions that that solve the Monge-Ampère equation $\det(D^2u) = 1$ away from finitely many points, and exhibit polyhedral and Y-shaped singularities. Along the way we will discuss geometric and applied motivations for constructing such examples, as well as their connection to a certain obstacle problem.