

# MONGE AMPÈRE EQUATIONS ON EXTERIOR DOMAINS

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We consider the Monge-Ampère equation  $\det(D^2u) = f$  where  $f$  is a positive continuous function in  $\mathbb{R}^n$  and is close to a constant at infinity. First we prove that every globally defined solution is close to a parabola plus a logarithmic term in  $\mathbb{R}^2$ , and is close to a parabola in  $\mathbb{R}^n$  for  $n \geq 3$ . Then we show that given any prescribed asymptotic behavior mentioned above, there exists a unique global solution corresponding to it. Finally we solve the exterior Dirichlet problem with given function on the boundary of a bounded convex set and a prescribed asymptotic behavior at infinity. This is a joint work with Jiguang Bao and Haigang Li.

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