1020-35-131 **Ahmed Mohammed*** (amohammed@bsu.edu), Department of Mathematical Sciences, Ball State University, Muncie, IN 47306. *Singular boundary value problems associated with the Monge-Ampère equation.* Preliminary report.

Given a strictly convex and smooth bounded domain Ω in $\mathbb{R}^n$, we consider the boundary value problem

$$\det(D^2u) = f(x, -u), \qquad \text{in } \Omega,$$

$$u = 0, \qquad \text{on } \partial\Omega$$

where the nonlinearity $f(x,t)$ could be singular near $t = 0$. We will show that under some fairly general assumptions on f, the above Dirichlet problem admits a negative convex solution in Ω. Estimates of solutions in terms of the distance function to the boundary are considered for a class of nonlinearities. A comparison principle is also proved which is then used to establish uniqueness of solutions. (Received August 23, 2006)