YanYan Li* (yyli@math.rutgers.edu) and Siyuan Lu. Monge-Ampère equation with bounded periodic data. Preliminary report.

A classical result of Jörgens, Calabi and Pogorelov states that any convex smooth solution $u$ of $\det(D^2 u) = \text{constant}$ in $\mathbb{R}^n$ must be a quadratic polynomial. The following extension was established by Caffarelli and the first named author: any convex solution $u$ of $\det(D^2 u) = f$ in $\mathbb{R}^n$, with $f$ being positive, periodic and Hölder continuous, must be the sum of a quadratic polynomial and a periodic function. In this work, we weaken the regularity assumption of $f$ from Hölder to boundedness. (Received February 02, 2019)