1070-35-183   **Nam Q Le*** (`namle@math.columbia.edu`) and **Ovidiu Savin**. *Boundary regularity for minimizers of the Futaki invariant functional with constraints.*

We consider the Futaki invariant functional over convex functions, defined on a strictly convex domain in the Euclidean space and having prescribed Monge-Ampere measures. This functional arises in the study of the existence of Kahler metrics of constant scalar curvature on toric varieties. When the dimension is 2 and the Futaki invariant functional is K-stable, we show that its minimizers are $C^{1,\alpha}$ up to the boundary. One of the main tools in our proof is the localization property at the boundary for the Monge-Ampere equations. (Received February 10, 2011)