1171-65-59 **Gerard Awanou*** (awanou@uic.edu), 851 South Morgan Street, 322 (SEO) M/C 249, Department of Mathematics, Statistics, CHICAGO, IL 60607. *The second boundary value problem for a discrete Monge-Ampere equation.*

In this work we propose a natural discretization of the second boundary condition for the Monge-Ampere equation of geometric optics and optimal transport. It is the natural generalization of the popular Oliker-Prussner method proposed in 1988. For the discretization of the differential operator, we use a discrete analogue of the subdifferential. Existence, unicity and stability of the solutions to the discrete problem are established. Convergence results to the continuous problem are given. (Received August 07, 2021)