

ANALYSIS AND DIFFERENTIAL GEOMETRY  
SEMINAR

*A characterization of the polarity transform for reflectors*

Anastasia Svishcheva  
Emory University

**Abstract:** Convex reflectors arise as solutions to nonlinear second order elliptic partial differential equations (PDE's) of Monge-Ampère type expressing conservation laws in geometrical optics. Previously it was shown by V. Oliker that this transform can be viewed as duality with respect to the form  $Q(X, Y) := |X||Y| - \langle X, Y \rangle$ ,  $X, Y \in \mathbb{R}^{n+1}$ . A natural and interesting geometric question is to find a minimal set of properties characterizing such duality transform between reflectors. I will speak about sufficient conditions for this transformation to be such duality.

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MATHEMATICS AND COMPUTER SCIENCE  
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