

Einladung zum Vortrag im GRK-Seminar

Montag, den 9. Januar 2012, 15.45 Uhr

Raum 1C-04 (Geb. 5.20)

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Surfaces refracting or reflecting radiation in a prescribed manner

ABSTRACT:

This talk is about the design of mirrors and lenses that transmit radiation with a prescribed magnification. It is assumed that radiation emanates from a source point or in a beam of parallel rays. As an example, I will explain and solve the problem of designing the passenger mirror in a car without a blind spot. It turns out that this problem leads to a first order differential equation that can be solved by elementary methods. The very same idea can be used to design lenses magnifying the image with a prescribed factor.

REFERENCES:

- [Gut11] C. E. Gutiérrez. Reflection, refraction and the Legendre transform. *Journal Optical Society of America A*, 28(2):284–289, 2011.
- [GT11c] C. E. Gutiérrez and F. Tournier. Surfaces refracting and reflecting collimated beams. *Journal Optical Society of America A*, 28(9):1860–1863, 2011.