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Nonimaging Optics: Efficient Design for Illumination and Solar Concentration VI

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Editors

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Contents

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Narkis E. Shatz, SAIC (United States)

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1 Tailored and Optimized Optics at the Étendue Limit I
Narkis E. Shatz, SAIC (United States)

2 Tailored and Optimized Optics at the Étendue Limit II
Juan C. Miñano, Universidad Politécnica de Madrid (Spain) and Light Prescriptions Innovators LLC (United States)

3 Tailored and Optimized Optics at the Étendue Limit III
Philip L. Gleckman, eSolar Inc. (United States)

4 High-Concentration Solar Optics I
Philip L. Gleckman, eSolar Inc. (United States)

5 High-Concentration Solar Optics II
Ralf Leutz, Concentrator Optics GmbH (Germany)

Introduction

Nonimaging Optics began in the mid-1960's with the discovery that optical systems could approach the thermodynamic limit of light collection (the sine law of concentration). The subject has more in common with radiation heat transfer than classical optics. One class of design methods employs "strings" (in analogy with "Hottel strings" used to calculate radiative transfer between furnace walls). Another postulates that mirrors placed along the flow-lines of Poincare's integral invariants can produce ideal light-guiding systems. Each conference has a theme. In 2009, there were impressive new results with the SMS method. A renewed interest in aplanatic designs was also in evidence. A deeper connection between the two will undoubtedly be a topic for the next conference. There was renewed respect for the power of thermodynamics to illuminate optical design and performance. And finally, the recognition of Nonimaging Optics with the A. E. Conrady Award is evidence the field is growing up.

Jeffrey M. Gordon
Roland Winston