TITLE

Carmela Filosa

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title

PROEFSCHRIFT

ter verkrijging van de graad van doctor aan de Technische Universiteit Eindhoven, op gezag van de rector magnificus prof.dr.ir. F.P.T. Baaijens, voor een commissie aangewezen door het College voor Promoties, in het openbaar te verdedigen

door

Carmela Filosa

geboren te Torre del greco, Italië

Dit proefschrift is goedgekeurd door de promotoren en de samenstelling van de promotiecommissie is als volgt:

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leden:

Het onderzoek of ontwerp dat in dit proefschrift wordt beschreven is uitgevoerd in overeenstemming met de TU/e Gedragscode Wetenschapsbeoefening.

Abstract

Keywords:

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Introduction

- 1.1 Motivation
- 1.2 Methods and results
- 1.3 Content of this thesis

Non imaging optics

- 2.1 Radiometric and photometric variables
- 2.2 Reflection and refraction law
- 2.3 Fresnel reflection
- 2.4 Application to optical design systems

Ray tracing

- 3.1 Ray tracing for two-dimensional optical systems
- 3.2 Monte Carlo ray tracing

Ray tracing on phase space

- 4.1 Phase space concept
- 4.2 The edge-ray principle
- 4.3 The method

Two different appoaches to compute the boundaries in target phase space

- 5.1 The α -shapes approach
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Analytic ray mapping method

- 6.1 Explanation of the method
- 6.2 Results for the two-faceted cup
- 6.3 Results for the multi-faceted cup
- 6.4 Discussions

Extended ray mapping method

- 7.1 Explanation of the method
- 7.2 Bisection procedure
- 7.3 Results for ta parabolic reflector
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