



Contribution ID: 274

Type: Oral Presentation

NON-SPECIALIST: Classical optics in the language of quantum mechanics

Friday, 12 July 2013 11:10 (40 minutes)

Abstract content
 (Max 300 words)

There is a close relationship between physical optics and quantum mechanics. Therefore problems from one of these fields can be solved by methods from the other. We review the application of Dirac notation and operator algebra to the optics of paraxial light beams at the example of deriving the lens equation. In addition, we formulate paraxial optics in terms of postulates in order to compare them with those of quantum mechanics and find -remarkably- a great similarity, except for measurements.

Apply to be
 considered for a student
 award (Yes / No)?

No

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

Yes

Primary author: Prof. KONRAD, Thomas (UKZN)

Co-author: GOYAL, Sandeep (UKZN)

Presenter: Prof. KONRAD, Thomas (UKZN)

Session Classification: Theoretical

Track Classification: Track G - Theoretical and Computational Physics