

From: xini.yuan@siom.ac.cn
Subject: Invitation to Review for the Chinese Optics Letters
Date: July 28, 2014 at 02:04
To: mtorres@ugto.mx



28-Jul-2014

Dear Dr. Torres-Cisneros:

Manuscript ID COL-14-1031 entitled "High temperature probe sensor with high sensitivity based on Michelson interferometer" with Mr. Zhao as contact author has been submitted to the Chinese Optics Letters.

I invite you to review this manuscript. The abstract appears at the end of this letter, along with the names of the authors. Please let me know as soon as possible if you will be able to accept my invitation to review. If you are unable to review at this time, I would appreciate you recommending another expert reviewer. You may e-mail me with your reply or click the appropriate link at the bottom of the page to automatically register your reply with our online manuscript submission and review system.

Once you accept my invitation to review this manuscript, you will be notified via e-mail about how to access ScholarOne Manuscripts, our online manuscript submission and review system. You will then have access to the manuscript and reviewer instructions in your Reviewer Center.

I realize that our expert reviewers greatly contribute to the high standards of the Journal, and I thank you for your present and/or future participation.

Sincerely,
Dr. Xini Yuan
Chinese Optics Letters Topic Editor
xini.yuan@siom.ac.cn

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MANUSCRIPT DETAILS

TITLE: High temperature probe sensor with high sensitivity based on Michelson interferometer

AUTHORS: Zhao, Na; Fu, Haiwei

ABSTRACT: A novel temperature Michelson interferometer based on a waist-enlarged taper is achieved. Such a device is fabricated by splicing a section of thin core fiber (TCF) at one end of single-mode fiber (SMF). Due to the fiber bitaper at the splicing point of SMF and TCF, the light is coupled into the fiber core and cladding from lead in fiber core. Because of the mode index difference between the fiber core and cladding, the lights propagate in the fiber core and cladding produce the phase difference. The lights will be reflected at the end of the fiber and then will be recoupled back into the lead out fiber core by the fiber bitaper. When the lights return back to the lead out fiber, the intermodal interference will occur for the optical path difference between core mode and cladding mode. The change of transmission spectrum of the sensor with respect to temperature has been studied by experiment. A high temperature sensitivity of 0.140 nm/oC is achieved from 30 to 800 oC, and the linearity is 99.9%. The configuration features the advantages of easy fabrication, a compact size, high sensitivity, wide sensing range and high mechanical strength, making it a good candidate for distant temperature sensing and oil prospecting.

