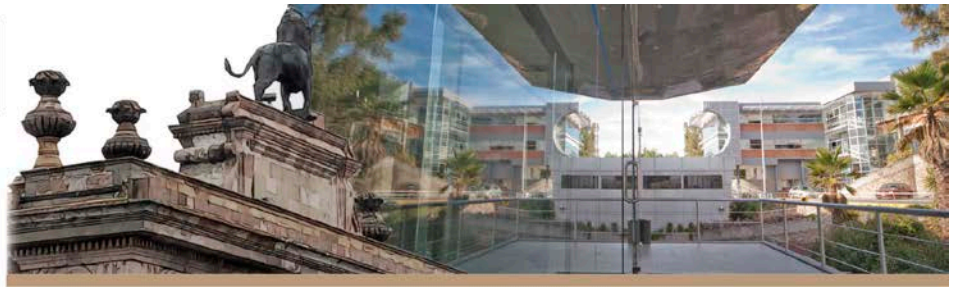


MOPM

MEXICAN OPTICS AND
PHOTONICS MEETING

September 9 -11, 2015
Leon, Guanajuato Mexico



Light – A Powerful Tool to Measure Temperature and Temperature Profile of Gaseous Flames and Some other Industrial Applications of Light

Chandra Shakher

Indian Institute of Technology Delhi, Hauz Khas, New Dehi-110016, India

ABSTRACT

My work in optics combines several disciplines. My Ph.D work was on holographic non-destructive testing wherein some new techniques were proposed. I diversified this work to holographic optical elements and applied them as concentrators for solar energy harvesting and optical testing. Later on I, however, concentrated on measuring the temperature and also profiling the temperature distribution in the axisymmetric flames and study of flames from two dimensional slot burner used in atomic absorption spectrophotometers. I used Talbot interferometry, Lau interferometry, digital speckle pattern shearing interferometry, holo-shear lens and digital holographic interferometry for this purpose. These techniques are of immense importance to measure temperature and it profile of axisymmetric flames. In addition to this, digital holographic interferometry was used for temperature measurement in laminar free convection flow. I would like to dwell on the techniques, their experimental realization and processing of the results during the talk. I may, however, point out that I also carried out work that was relevant to industry and transferred 12 such technologies. I may briefly mention some of them.



RIAO

