



UNIVERSITY OF DHAKA

Citation for Razzaq-Shamsun Research Prize for the year 2002.

The Syndicate of the University of Dhaka is pleased to award for the year 2002 the research prize of the Razzaq-Shamsun Research Scholarship/Prize Fund in the form of a sum of Taka Twenty Thousand only to

Dr. Kazi Monowar Abedin

for his construction of an electronic speckle pattern interferometer and its use in the measurement of in-plane motions and rotations.

When an optically rough surface is illuminated by a beam of coherent laser light and the light scattered from the surface is observed on a plane some distance away, then at any point on this plane the electric field is the vector sum of all the elementary fields reaching there after being scattered by different portions of the entire rough surface. Since the surface is optically rough and the surface irregularities are more than a wavelength long, the total electric field at the point of observation fluctuates statistically and these fluctuations in intensity are called laser speckles.

Laser speckles carry information about the rough surface and this has found many applications. One of those is the electronic speckle pattern interferometry (ESPI) which uses the interference between a speckle field generated by a rough surface and a reference field (which may be another rough surface). Deformations are applied on the rough surface and the interference pattern is recorded electronically before and after the deformations and a correlation is obtained electronically between the two recorded patterns.

Dr. K.M. Abedin and his colleagues have constructed and successfully operated a simple ESPI. In their first publication in the "Optics and Laser Technology, 32 (2000) 323", they describe the use of a digital still-camera for image recording. In their second publication, "Optics and Laser Technology 34(2001), 293", they describe the use of a commercial digital still camera for image acquisition and a personal computer for image storage and analysis.

The University of Dhaka and the Trustees of the Razzaq-Shamsun Research Scholarship/Prize Fund are therefore happy to recognise this excellent experimental research work by the award of this prize to Dr. Kazi Monowar Abedin of the Department of Physics, University of Dhaka.

List of Publications :

Construction and operation of a simple electronic speckle pattern interferometer and its use in measuring microscopic deformations. Optics & Laser Technology (UK)32,323-328(2000).

K.M. Abedin, S.A. Jesmin and
A.F.M.Y. Haider

Measurement of in-plane motions and rotations using a simple electronic speckle pattern interferometer, Optics & Laser Technology (U.K.),34(4)293-298(2002).

K.M. Abedin, M. Wahadoszamen and
A.F.M. Y. Haider

Vice-Chancellor
University of Dhaka.

Dhaka 04 APR 2006
Dated.....