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# Application of speckle interferometry for non-destructive testing of objects

*Sh. B. Utamuradova, Z. T. Azamatov, V. E. Gaponov, A. A. Jeenbekov, N. N. Bazarbaev and A. B. Bakhromov*

Institute of Semiconductor Physics and Microelectronics
at the National University of Uzbekistan
20 Yangi Almazar st., Tashkent, 100057, Uzbekistan
E-mail: zakir.azamatov@mail.ru

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***One of the rapidly developing optical methods is the method of correlation speckle interferometry or the so-called shear speckle interferometry (shearography). The main advantages of the method are higher accuracy of strain estimation, non-contact method of data acquisition, low dependence on the shape and surface of the material under study, as well as ease of setup and operation. This provides direct measurements of strain gradients in real time.***
***A scheme of a compact speckle interferometer for digital shearography based on the Michelson interferometer is proposed and implemented. The possibility of detecting a crack in a welded joint of metal (aluminum and steel) plates is demonstrated.***

*Keywords*: shearography, speckle interferometry, surface deformation, non-destructive testing, digital holographic interferometry.

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