

Evaluation of material hardness based image processing tool

Mays Oday, Abdul Hadi Kadhim, Razi J. Al-azawi

ABSTRACT

In this paper, we present a new evaluation tool for materials hardness measuring by using Digital Image Analysis (DIA) instead of the classical approach. In this method Hardness mechanism achieved by processing materials image using certain image processing steps. The processing steps are: capturing material image using a specialized microscope, reading the captured image, pre-processing, image enhancement, Region of Interest capturing (ROI) and, finally hardness computing by calculated the number of burned pixels in ROI with averaging to total size of that region. The results showed that the proposed method gives good results in a comparison with classical hardness evaluation. As well as it considers a new user-friendly computerized hardness evaluation program for experimental materials evaluation.