

Title Bio-speckle activity applied to the assessment of tomato fruit ripening
Author G.G. Romero C.C. Martinez, E.E. Alanís, G.A. Salazar, V.G. Broglia and L. Álvarez
Citation Biosystems Engineering, Volume 103, Issue 1, May 2009, Pages 116-119
Keywords tomato; bio-speckle

Abstract

Dynamic speckle activity is a useful non-destructive tool for the study of certain processes that occur in biological samples. In this study, bio-speckle usefulness in the determination of the ripening degree of different lines of tomatoes was explored. The study was carried out recording the temporal history of the speckle pattern obtained by illuminating the surface of the fruit with a laser beam. The bio-speckle activity was determined by means of the autocorrelation functions of the intensity fluctuations. The intensity of the backscattered light, measured by the average grey level of the speckle diagrams, was also recorded. Both parameters were related to the fruit ripening of each tomato line so that the differences could be observed.