

DISCUSSION

M. A. Sutton (written discussion)—The authors presented surface displacement data for a region very close to the tip of a growing crack in a Type 304 stainless steel specimen. It is well known that the surface dimpling in the crack-tip vicinity is substantial. Since the authors imaged the dots onto a CCD or other type array, the motion of the dots recorded by the camera has all three components of displacements in the data!

Of course, under certain situations, the effect of the out-of-plane motion on the inplane data can be reduced to a value that is in the noise of the system and hence immeasurable. I believe that the authors should conclusively show by a baseline experiment or analytical work or both on their optical system how much the out-of-plane motion affects the inplane measurements! That is, they should provide an error band for their data due to the presence of significant out-of-plane motion. Otherwise, their data cannot be used with any confidence.

G. Yagawa, S. Yoshimura, A. Yoshioka, and C-R. Pyo (authors' closure)—Since some other reviewers pointed up the same thing, we have added a section, Measurement Error of Displacement and Strain, in the revised paper. Please refer to it.

M. A. Sutton (written discussion)—I should also note that much work has been done by Dr. Jim Sirkis (now at the University of Maryland) on dot patterns and how to accurately track their motion. The authors may wish to include his work in their references.

G. Yagawa, S. Yoshimura, A. Yoshioka, and C-R. Pyo (authors' closure)—We would like to refer to the work on dot patterns by Dr. Jim Sirkis and other researchers' works on data smoothing in the section, Interpolation of Mark Displacements, of the revised paper.

Thank you very much for your kind suggestion.

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