

Session: E2-1-5	Procedures and Equations for the Next Generation of Surface Testers Solving the Problem of Pile-Up, Sink-In and Making Area-Function-Calibration Obsolete	Abstract # 395
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Abstract:

In the presentation procedures and formulae for a new and more general surface tester concept will be given and discussed. The concept is based on the idea that the next generation of surface testers will provide the means to use all degrees of freedom of movement a probe on a sample surface could perform. Thus, in addition to the ordinary normal stiffness also lateral, tilting and twisting stiffness will be measured and used in the subsequent parameter determination of the investigated materials. It will be demonstrated that such a concept would not only completely solve classical problems like "pile-up" and "sink-in" it would also supersede the need of area function calibration for the indenter tips and allow direct measurement of local intrinsic and residual stresses, anisotropy and many other things, too.

¹G. M. Pharr, A. Bolshakov: J. Mater. Res., Vol. 17, No. 10, Oct 2002

Note: Requested an Oral Session.