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Determination of the cross-sectional area of the indenter in nano indentation tests[1] WEIDIAN SHEN, JEREMY MCMINIS, RENE CROMBEZ, EVA MONTALVO, Surface Science and Nano-Tribology Laboratory, Department of Physics and Astronomy, Eastern Michigan University — To measure the hardness and elastic modulus of a composite system in the nano scale the precise determination of the cross- section area of the indenter tip at different heights is a key. A method of using scanning probing microscopy to image the tip, and then using its analysis software, Histogram program and Bearing curve, combined with the information of the area of each pixel, to determine the cross section area at different heights is introduced in this presentation. Compared with other techniques, it is simple, straightforward, and readily provides a precise relationship between the cross-sectional area and the height.

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