

Meeting: 1006, Lubbock, Texas, SS 5A, Special Session on Recent Advances in Complex Function Theory

1006-30-93 **Peter Duren*** (duren@umich.edu), Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1109, **Martin Chuaqui**, Facultad de Matemáticas, P. Universidad Católica de Chile, Casilla 306, Santiago, Chile, and **Brad Osgood**, Department of Electrical Engineering, Stanford University, Stanford, CA 94305. *A Schwarzian derivative criterion for univalence of harmonic mappings.*

The Schwarzian derivative of a complex-valued harmonic function f can be defined in relation to its Weierstrass–Enneper lift F to a minimal surface Σ . We give a sufficient condition for the univalence of F in terms of the Schwarzian of f and the Gauss curvature K of Σ . Examples show that the condition is sharp. If f is analytic, then Σ is the complex plane, $K = 0$, and our condition reduces to a well known theorem of Nehari (1954). (Received February 08, 2005)