

Meeting: 1006, Lubbock, Texas, SS 2A, Special Session on Differential Geometry and Its Applications

1006-53-20 **Henry C. Wente*** (hwente@math.utoledo.edu), Department of Mathematics, The University of Toledo, Toledo, OH 43606, and **Andraia Mahler**. *The Bianchi-Baecklund Transformation for Constant Mean Curvature Surfaces*.

The classical Bianchi-Baecklund Transformation for constant mean curvature surfaces is defined for a conformally immersed surface expressed in curvilinear coordinates. We show how to extend this transformation across possible umbilic points. This allows one to define a Bianchi-Baecklund transformation for any cmc surface represented by a conformal immersion on any simply-connected region. Our approach is classical, the main ingredient being a suitable change of variables. This work is contained in the recent dissertation of Andraia Mahler (PhD, University of Toledo, June 2003). We shall discuss examples and applications as well. (Received December 20, 2004)