

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

1006-30-10 **Jay M Jahangiri*** (jay@geauga.kent.edu), 14111 Claridon Troy Road, Burton, OH 44021-9500, **Herb Silverman**, Charleston, SC 29424, and **Evelyn M Silvia**, Davis, CA 95616. *New and old results on the coefficients of classes of harmonic univalent functions.* Preliminary report.

A continuous function $f = u + iv$ is a complex-valued harmonic function in a complex domain \mathcal{C} if both u and v are real harmonic in \mathcal{C} . In any simply connected domain $\mathcal{D} \subset \mathcal{C}$ we can write $f = \bar{g} + h$, where g and h are analytic in \mathcal{D} . A necessary and sufficient condition for f to be locally univalent and orientation preserving in \mathcal{D} is that $|g'| < |h'|$ in \mathcal{D} . Recent interest in harmonic univalent functions was triggered by Clunie and Sheil-Small in an interesting article (MR:85i:30014), where they investigated the coefficient bounds for various subclasses of the orientation preserving harmonic univalent functions in the open unit disk $\Delta = \{z : |z| < 1\}$. We present and discuss the recent advances on this topic. (Received December 05, 2004)