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A NEW SUBCLASS OF COMPLEX HARMONIC FUNCTIONS

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Abstract. Complex valued harmonic functions that are univalent and sense preserving in the unit disk U can be written in the form $f = h + \overline{g}$, where h and g are analytic in U. In this paper, we introduce a class $HP(\alpha)$, $(\alpha \geqslant 0)$ of functions which are harmonic in U. We give sufficient coefficient conditions for normalized harmonic functions in $HP(\alpha)$. These conditions are also shown to be necessary when the coefficients are negative. This leads to distortion bounds and extreme points.

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