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Martin boundary associated with a system of PDE

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Abstract: In this paper, we study the Martin boundary associated with a harmonic structure given by a coupled partial differential equations system. We give an integral representation for non negative harmonic functions of this structure. In particular, we obtain such results for biharmonic functions (i.e. $\Delta^2\varphi = 0$) and for non negative solutions of the equation $\Delta^2\varphi = \varphi$.

Keywords: Martin boundary, biharmonic functions, coupled partial differential equations

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