Properties of the $\mathcal{M}$-Harmonic Conjugate Operator

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Abstract. We define the $\mathcal{M}$-harmonic conjugate operator $K$ and prove that it is bounded on the non-isotropic Lipschitz space and on BMO. Then we show $K$ maps Dini functions into the space of continuous functions on the unit sphere. We also prove the boundedness and compactness properties of $\mathcal{M}$-harmonic conjugate operator with $L^p$ symbol.