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On Marcinkiewicz Integrals along flat surfaces

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 [Keywords](#)  
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**Abstract:** In this paper, we study Marcinkiewicz integral operators with rough kernels supported by surfaces given by flat curves. Under convexity assumptions on our surfaces, we establish an  $L^p$  boundedness result of such operators. Moreover, we obtain the  $L^p$  boundedness of the corresponding Marcinkiewicz integral operators that are related to area integral and Littlewood-Paley  $g_{\bullet}^*$  functions.

**Key Words:** Marcinkiewicz integral, rough kernels, flat curves, Fourier transform, area integral, Littlewood-Paley  $g_{\bullet}^*$  functions



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