

# Turkish Journal of Mathematics


Turkish Journal

of

Mathematics

Maximal Oscillatory Singular Integrals with Kernels in  $L \log L(S^{n-1})$

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 [Keywords](#)  
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**Abstract:** In this paper, we study the  $L^p$  mapping properties of a certain class of maximal oscillatory singular integral operators. We establish the  $L^p$  boundedness of our operators provided that their kernels belong to the natural space  $L \log^+ L(S^{n-1})$ . Our result substantially improves a previously known result. Moreover, the approach developed in this paper can be applied to handle more general maximal oscillatory singular integral operators.



**Key Words:** Oscillatory singular integrals, Rough kernels, Maximal functions

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Turk. J. Math., **29**, (2005), 259-274.

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