BOUNDEDNESS OF BI–PARAMETER
LITTLEWOOD–PALEY g_λ^* –FUNCTION ON HARDY SPACES

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Abstract. In this paper, we prove the $H^p - L^p$ boundedness of bi-parameter Littlewood-Paley g_λ^*-function with p less than 1, improving on the $H^1 - L^1$ boundedness due to Li and Xue. The main tools include Journé's covering lemma, vector-valued theory and the atomic decomposition of product Hardy spaces.

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