Weighted Boundedness of bilinear Bochner-Riesz operators

Kalachand Shuin

Abstract 1. *I shall talk about the weighted boundedness of bilinear Bochner-Riesz operator* $\mathcal{B}^{\alpha}$ *at the critical index* $\alpha = n - \frac{1}{2}$. *i.e the operator* $\mathcal{B}^{\alpha}$ *defined by*

$$\mathcal{B}^{\alpha}(f,g)(x) = \int_{R^n}\int_{R^n}(1-|\xi|^2-|\eta|^2)_+^{\alpha}\hat{f}(\xi)\hat{g}(\eta)e^{-2\pi\iota x\cdot(\xi+\eta)}d\xi d\eta$$

maps $L^{p_1}(\omega_1) \times L^{p_2}(\omega_2) \to L^p(v_\omega)$ *for all bilinear weights* $\vec{\omega} \in A_{\vec{P}}$ *with* $1 < p_1, p_2 < \infty$, $\frac{1}{p_1} + \frac{1}{p_2} = \frac{1}{p}$ *and* $\alpha = n - \frac{1}{2}$.