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Two-weight Norm Inequalities for Some Anisotropic Sublinear Operators

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**Abstract:** In this paper, we establish several general theorems for the boundedness of the anisotropic sublinear operators on a weighted Lebesgue space. Conditions of these theorems are satisfied by many important operators in analysis. We also give some applications the boundedness of the parabolic singular integral operators, and the maximal operators associated with them from one weighted Lebesgue space to another one. Using this results, we prove weighted embedding theorems for the anisotropic Sobolev spaces  $W_{\omega_0, \omega_1, \dots, \omega_n}^{l_1, \dots, l_n}(\mathbb{R}^n)$ .

**Key Words:** Weighted Lebesgue space, sublinear operators, anisotropic singular integral, two-weighted inequality

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