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A Sawyer Duality Principle for Radially Monotone Functions in \mathbb{R}^n .

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Abstract: Let f be a non-negative function on \mathbb{R}^n , which is radially monotone ($0 < f \downarrow r$). For $1 < p < \infty$, $g \geq 0$ and v a weight function, an equivalent expression for

$$\sup \frac{\int_{\mathbb{R}^n} fg}{f \downarrow r \left(\int_{\mathbb{R}^n} f^p v \right)^{\frac{1}{p}}}$$

is proved as a generalization of the usual Sawyer duality principle. Some applications involving boundedness of certain integral operators are also given.

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