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A Sawyer Duality Principle for Radially Monotone Functions in 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

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

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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