

**WEIGHT CHARACTERIZATION OF THE TRACE INEQUALITY
FOR THE GENERALIZED RIEMANN-LIOUVILLE TRANSFORM
IN $L^{p(x)}$ SPACES**

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ABSTRACT. Necessary and sufficient conditions on a weight v governing the trace inequality for the Riemann-Liouville transform with variable parameter $R_{\alpha(x)}$ in $L^{p(x)}$ spaces are established provided that p and q satisfy the log-Hölder continuity condition. Weighted criteria for the compactness of $R_{\alpha(x)}$ from $L^{p(x)}$ to $L_v^{q(x)}$ are also derived.

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