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On Space of Parabolic Potentials Associated with the Singular Heat Operator

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Abstract: Anisotropic spaces $L_{p,\gamma}^\alpha$ of parabolic Bessel potentials, associated with the singular heat operator $-\Delta_\gamma + \frac{\partial}{\partial t}$, where $\Delta_\gamma = \sum_{k=1}^n \frac{\partial^2}{\partial x_k^2} + \frac{2\gamma}{x_k} \frac{\partial}{\partial x_k}$, are introduced, and making use of special wavelet-type transform, a characterization of these spaces is obtained.

Key Words: Generalized translation, Fourier-Bessel transform, parabolic potential, wavelet transform

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