ON THE NECESSARY CONDITIONS FOR PRESERVING THE NONNEGATIVE CONE: DOUBLE SCALE ANOMALOUS DIFFUSION

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Abstract. The work deals with the easily verifiable necessary conditions of the preservation of the nonnegativity of the solutions of a system of parabolic equations in the case of the double scale anomalous diffusion when the fractional Laplacian is added to the negative Laplace operator raised to another fractional power in the space of two dimensions. Such necessary conditions are extremely important for the applied analysis society because they impose the necessary form of the system of equations that must be studied mathematically.