

Applications of differential equations with fractional time derivative in describing subdiffusion processes

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Abstract

We show the applications of hyperbolic and parabolic subdiffusive equation with time fractional derivative to describe the transport process in membrane system and to study the subdiffusive impedance in electrochemical system. Based on solutions of the equations we find characteristic power functions which can be used to extract the subdiffusive parameters of the system from experimental data. To illustrate our considerations we find the values of subdiffusion parameters for a few media.

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