

Abstract Submitted
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Langevin Description of Anomalous Diffusion Processes in the Presence of External Potentials STEPHAN EULE, Max-Planck-Institute for Dynamics and Self-Organization, Goettingen, Germany, RUDOLF FRIEDRICH, Institut fuer Theoretische Physik, WWU Muenster, Germany — The role of external forces in systems exhibiting anomalous diffusion is discussed within the framework of Langevin equations. Since there exist different possibilities to include the effect of an external field the concept of *biasing* and *decoupled* external fields is introduced. This leads to two different forms of time-fractional Fokker-Planck equations. Complementary to the recently established Langevin equations for anomalous diffusion in a time-dependent external force-field by Magdziarz et al. the Langevin formulation of anomalous diffusion in a decoupled time-dependent force-field is derived. Thereby the mathematical concept of subordination is applied.

Stephan Eule
Max-Planck-Institute for Dynamics and Self-Organization,
Goettingen, Germany

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