

Garbaczewski, Piotr

Probability and quanta: Why back to Nelson? (English) [Zbl 0940.60092](#)

Alicki, Robert (ed.) et al., Quantum probability. Workshop, Gdańsk, Poland, July 1-6, 1997. Warsaw: Polish Academy of Sciences, Institute of Mathematics, Banach Cent. Publ. 43, 191-199 (1998).

Inspired by Nelson's stochastic mechanics the author discusses interpretations of solutions for various physically relevant partial differential equations in terms of diffusion processes. In particular, the Schrödinger boundary data problem and Burgers flows are presented as examples.

For the entire collection see [\[Zbl 0903.00097\]](#).

Reviewer: [Robert Alicki \(Gdansk\)](#)

MSC:

[60K40](#) Other physical applications of random processes

[82C31](#) Stochastic methods (Fokker-Planck, Langevin, etc.) applied to problems in time-dependent statistical mechanics

[81P20](#) Stochastic mechanics (including stochastic electrodynamics)

Keywords:

[diffusion processes](#); [partial differential equations](#); [stochastic mechanics](#)

Full Text: [EuDML](#)