Cornell University Library

We gratefully acknowledge support from the Simons Foundation and member institutions

arXiv.org > math-ph > arXiv:1106.3034

Search or Article-id

(Help | Advanced search)

All papers   Go!

Mathematical Physics

Similarity solutions of Fokker-Planck equation with time-dependent coefficients

Wen-Tsan Lin, Choon-Lin Ho

(Submitted on 15 Jun 2011 (v1), last revised 28 Dec 2011 (this version, v2))

In this work, we consider the solvability of the Fokker-Planck equation with both time-dependent drift and diffusion coefficients by means of the similarity method. By the introduction of the similarity variable, the Fokker-Planck equation is reduced to an ordinary differential equation. Adopting the natural requirement that the probability current density vanishes at the boundary, the resulted ordinary differential equation turns out to be integrable, and the probability density function can be given in closed form. New examples of exactly solvable Fokker-Planck equations are presented, and their properties analyzed.

Submission history

From: Wen-Tsan Lin [view email]

[v1] Wed, 15 Jun 2011 17:39:02 GMT (1893kb)

[v2] Wed, 28 Dec 2011 15:10:22 GMT (549kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.