

**Sasamoto, Tomohiro; Wadati, Miki****Exact results for one-dimensional totally asymmetric diffusion models.** (English)[Zbl 1085.83501](#)

J. Phys. A, Math. Gen. 31, No. 28, 6057-6071 (1998).

Summary: Several types of totally asymmetric diffusion models with and without exclusion are considered. For some models, conditional probabilities of finding  $N$  particles on lattice sites  $x_1, \dots, x_N$  at time  $t$  with initial occupation  $y_1, \dots, y_N$  at time  $t = 0$  are expressed in a determinant form. On the other hand, the  $q$ -boson totally asymmetric diffusion model is introduced which interpolates the free boson model and the model with exclusion-like interaction. The effects of the interaction are compared for the case of two-particle diffusion.

**MSC:**

- 83C05** Einstein's equations (general structure, canonical formalism, Cauchy problems)
- 82C20** Dynamic lattice systems (kinetic Ising, etc.) and systems on graphs in time-dependent statistical mechanics

Cited in **3** Reviews  
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