

Gordevskyy, V. D.; Hukalov, O. O.

The bimodal distribution with some Maxwell modes for the Bryan-Piddack equation.
(Ukrainian. English summary) [Zbl 1363.76061](#)

Visn. Khark. Univ., Ser. Mat. Prykl. Mat. Mekh. 82, 4-18 (2015).

Summary: An approximate solution of the Bryan-Piddack equation in the form of a bimodal distribution with Maxwell modes that describe the motion of the “accelerating-packing” type is constructed. Sufficient conditions for the minimization of inhomogeneous weighted residual for the model of rough spheres are obtained.

MSC:

[76P05](#) Rarefied gas flows, Boltzmann equation in fluid mechanics

[45K05](#) Integro-partial differential equations

[82C40](#) Kinetic theory of gases in time-dependent statistical mechanics

Keywords:

Bryan-Piddack equation; rough sphere; non-uniform weight