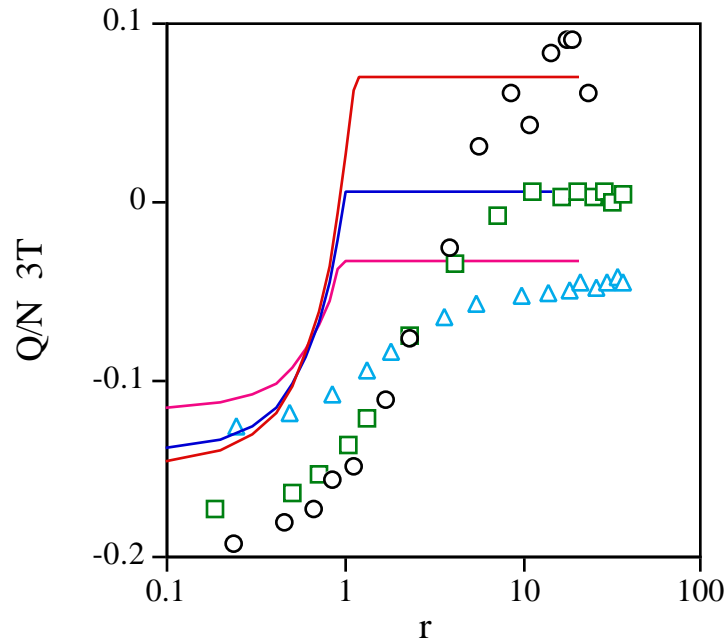


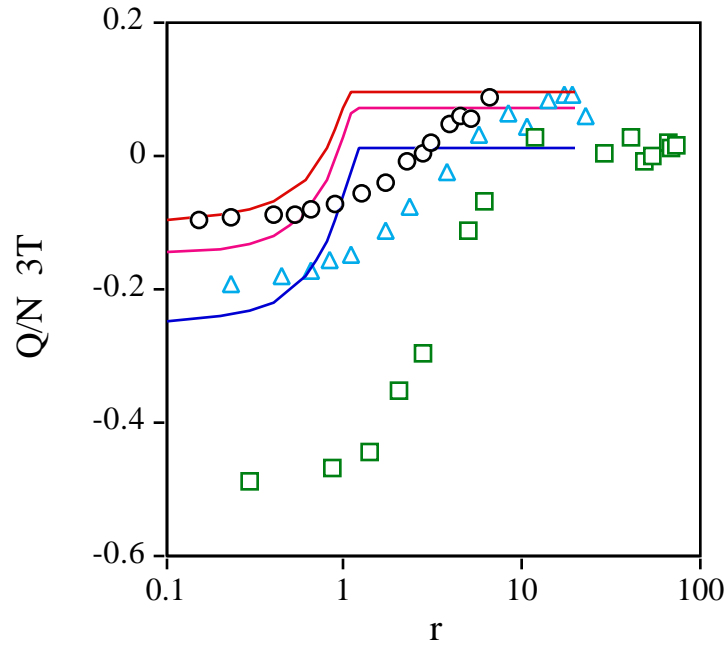
James T. Jenkins and M. Louge: “On the flux of fluctuation energy in a collisional grain flow at a flat, frictional wall,” *Phys. Fluids* **9** (10), 2835-2840 (1997).

We consider a rapid granular flow of spheres interacting with a flat, frictional wall and calculate the flux of fluctuating energy in two limits. In the first limit, all spheres slide upon contact with the wall. Here, we refine the calculations of Jenkins [*J. of Applied Mech.* **59**, 120-127 (1992)] and show that a correlation between two orthogonal components of the fluctuating velocities of the points of contact of the grains with the wall provides a substantial correction to the flux originally predicted. In the other limit, the granular material is agitated but has vanishing mean slip with respect to the wall. Here, Jenkins’ earlier calculation is refined by distinguishing between those contacts that slide in a collision and those that stick. The new expressions for the flux agree well with the computer simulations of Louge [*Phys. Fluids* **6** (7), 2253-2269 (1994)]. The simulations also suggest an approximate expression to capture the flux between the two limits.

Figure excerpts



Relative flux of fluctuation energy with $e = E = 0.9$ and $\theta_0 = 0$. The triangles, squares and circles represent simulations with $\mu = 0.1, 0.2$ and 0.3 , respectively. The solid lines are the corresponding predictions of Eqs. (30) and (39).



Relative flux of fluctuation energy with $\mu = 0.3$ and $\theta_0 = 0$. The squares, triangles and circles represent $e = E = 0.7, 0.9$ and 1 , respectively. The solid lines are the corresponding predictions of Eqs. (30) and (39).