Feed-back from Readers :

Discussion, Comments and Answers

From *poudres & grains* articles:

On *Poudres & grains* 15 (1), 1-16 (2005)**: remark on 1g *vs.* 0g behaviour of granular gas:** An important argument is missing in the discussion on the difference between 0-g and 1-g experiments on dissipative granular gas in the above quoted paper. Its correction is developed as Remark #9 of section 1 of the next article, but it seems so important that it needs also to be duplicated:

The proposed model finds the probability density function which varies as f(v)= **(A/v)** exp(-v/v_o) . It works in 0-g because the lifetime τ of a state "v" scales as L/v in the present model; this generates the 1/v pre-factor in front of the exponential. Applying the same rules in 1g tells that τ corresponds to the roundtrip time; hence it scales now as 2v/g, which leads to f(v)=**(A'v/g)** exp(-v/v_o). This changes completely the behaviour: it generates a medium with a typical speed; this annihilates the condensation process on the "v=0" state, which is found in 0-g. Hence it makes the physics quite different. To exemplify the difference, let us turn the cell with a single piston upside down, in 1g; this leads to all balls in a condensate at v=0, which demonstrates in turn that the physics at 1g and at -1g are not at all the same. In the same spirit, this forces asking what is the true effect of g-jitter in 0g granular gas? I t may be much more important as thought initially.

P.E.