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Evesque claims that the air flow generated by the bottom plate vibration has no effect in our experiments. This is perfectly exact and we have not mentioned this effect, known as “acoustic streaming”, in our article. We have written that the effect of the air on the particles “results from their motion in the surrounding fluid” (see our paper abstract for instance). As said by Evesque in his comment last remark, he has not “discussed the effect of quasistatic surrounding compressible and viscous fluid on this pile”. Consequently we don't understand how he can conclude that the air effect is negligible in our experiments without discussing the relevant mechanism.

Since the comment of Evesque reports incompletely our results and can lead to wrong interpretations about the physics of the convective granular flow, let us add a few remarks:

- The main effect of the surrounding fluid is to make the thinner parts of the grain layer collide with the vessel base earlier (not to “carry grains” as said by Evesque).

- We have reported the existence of convective motions when vacuum is performed in the case of narrow cells. This is not quoted by Evesque in his comment, and is perhaps the case of his own experiments. In the narrow cell configuration, we think that the thicker parts collide later because of the arch effect.

- The condition that the thinner parts collide earlier, and the existence of two regions of different packing structure during the collision, are necessary to generate the convective motion. This is induced in general by the surrounding fluid, and in narrow cells by the lateral boundaries. Then an averaged horizontal flow is created from a vertical excitation. This is the mechanism of the convective flow.