

REVIEWS ON THE MANUSCRIPT [35]

Reviewer 1:

There is a (in my eyes reasonable) claim that spaghetti break due to dynamic deformation and waves propagating in the spaghetti. Please give a reference for this claim. Please also give references for the less generally known formulae you apply.

A quite limited subset of the problem (vertical impact) was chosen. However, partial bending and compression were used in the explanation, which means that the spaghetti is actually bent in a certain direction. Please elaborate on the condition of vertical falling that allows bending into a certain direction.

Please improve the structure of your report as the “theoretical model” section includes experimental observations and similar.

As you say the breaking of the spaghetti is, to a large extent, driven by plastic deformation, could you please give some indication of the materials the spaghetti consists of and its rigidity, for example?

Please give references or measurement data (ideally including errors) or explanations of the measurement setup for the variables that were measured.

Please outline your experimental setup better – maybe you want to introduce an individual section where you do this.

The problem asks to find the conditions under which spaghetti do not break. Please elaborate on the influence of the parameters you identify (diameter, length) on this condition.

Please give an indication of the energy needed to break a certain kind of spaghetti (as you say this can be predicted).

Reviewer 2:

The structure is OK.

In diagram 2, I suggest starting the horizontal axis from zero. This would show that there is a minimum height below which there is no breaking which is interesting.

I would like to have a reference for the value of E . It is considerably smaller than other groups have found experimentally.

In figure 3 the influence on the length of the spaghetti is displayed. In the text it is stated that they fall from the same height but not from which height. I suggest adding that information to the figure.

In figure 4 my conclusion would be that the diameter of the spaghettis does make a difference contrary to what is stated in the text. The frequency of breaking is clearly higher for thinner spaghettis.

Recommended with some amendments.

Editorial request:

>> *Behavior of dry spaghetti as a brittle rod and its mechanical properties was the subject of many researches.*

Please provide references and explain your contribution in contrast to the previous works mentioned.