REVIEWS ON THE MANUSCRIPT [11]

Reviewer 1:

The general structure of the paper is very good. The authors have made an interesting numerical model of what happens at the removal of the tape. I have only some small suggestions for improvement.

1) Equation (1) and (2) together with figure could be improved to show more clearly the definition of the quantities involved. What is Δr in the figure? The quantities t and w are not defined. It is not clear how (2) (although true) is a consequence of (1); especially from where comes the factor (1-cos θ)?

2) In figure 2 the quantities x and y are not defined.

3) In figure 9 it is difficult to see which curve is the analytical and which is numerical one. Making one of the curves dashed would make it much more clear.

With these changes I would recommend the paper.

Reviewer 2:

Comments:

In abstract, if you mention verification of theoretical predictions, specify briefly those predictions and the verification.

No numerical model assumptions are mentioned in the text.

The possible outcomes of this approach should be discussed in much more detail and should be summarized in conclusions at the end of article.

The strongest and the weakest aspect of the paper:

The strongest aspect of the paper is the numerical simulations of the phenomena, however describe too briefly. The experimental part is described well.

The weakest aspect of the paper is too short explanation of theoretical assumptions.

There is no error analysis. Only one single tape (?) was tested? This is what one can conclude from the article

Organization and Presentation:

The paper is easy to read, with clear, easy-to-read structure. The article lacks a conclusion part.

Style:

The article is fairly understandable. There are a number of spelling errors (spell check strongly suggested).

Additional Questions:

- What is the final answer: what is the necessary (minimal?) force to be applied to remove a piece of tape? Does it depend only on angle? What with the

peeling speed?
- What are the essential parameters in the system?
- What is a slip-stick problem?

References:

The number of used references is good. However, the references lack the details (e.g. date of print).

No journal articles are referred to.

The references are properly and professionally mentioned throughout the text.

Recommendation:
- Attach a chapter (large one) with a summary and detailed conclusions
- Remember that the article will be printed in grayscale (you may adjust the contrast of the pictures and photos a little)
- Write two or three sentences describing the sources of the errors in the experiments
- Consider revising any parts of the text that are unspecific and do not clarify of what results are obtained and what conclusions are drawn.
- Write more about your theory: what physical laws you use, why, what are the assumptions exactly, etc.
- Please add the details of the references.

Summary:

The manuscript is recommended for publication after revision.

Reviewer 3:

This contribution is well written, includes a numerical model and a quantitative prediction that are tested and compared (in the discussion section). I liked it quite a lot, and missed only a second (double-tape) experiment comparison with the theoretical model. The last objection is that it seems to me that the many-springs numerical model seems to apply best to the small-theta regimes which it is not supposed to be describing well.

Here are a few comments.

The introduction is well done, noting e.g. a low-angle tape deformation and the importance of the tape-backing type. In the theoretical analysis section, we get a proper derivation of the force depending on the angles and tape properties (Young's modulus).

Then we get a description of a many-springs numerical model. One thing that I lack is the description of what is actually depicted in Figure 3.

The experiments that the author is doing is static, looking for the minimum force required for peel-off at a given angle. Another experiment measures Young's modulus for a plainly stretching tape. Figure 7 needs a description of the axes.

The calibration section attempts to fit the numerical model's free parameters to match the measured Force(angle) dependence. What are the authors actually calibrating for the numerical model? I would like to see that. Is it Young's modulus? The "breaking point" of the little springs? Their density?

On the other hand, it looks like the "calibrated" model then gives a quite accurate prediction for a "double-layer" tape experiment. Was it done with the same tape, just with two layers of it? That should change just E, and leave the surface energy per area unchanged. Did you do this for the prediction from formula (2) as well? I'd like to see that too.

In the discussion, we get two theoretical curves, one from the formula (2), one from the "calibrated" numerical model.

I am surprised by the conclusion of the authors, claiming that their "springy" model should work well for small theta as well... In fact, I would not expect it to work at all.

To convince me, I would like to get a picture of these special cases, depicting how their springs were actually pulled. Were there only two of them? It is not clear to me.

Small typos:

cover different aspects ... cover all the different aspects

are much accurate ... are quite accurate

detaching the adhesive ... detaching of the adhesive

reaches to a critical amount ... reaches a critical magnitude

the rate in which the adhesive removes ... the rate of the adhesive removal

lower amount of force ... a smaller force

starts to remove ... starts to peel off

Figure 4: Illustration of main algorithm ... Figure 4: The numerical

algorithm

Figure 5: Experiment setup ... Figure 5: The experimental setup

Editorial request

Figure 7: units on the x-axis and the y-axis?

References: Please type the references in a way that the readers may immediately understand where and how they may look for a document. All references are books? Add the years of the publication.

Typo in the title : horiz**o**ntal surface