First of all, we would like to thank the reviewers for their positive feedbacks; you all mentioned the novelty, the relevancy and the soundness of our results.

More discussions and dry writing It seems that the major common complaint is the lack of discussions and the "dry" writing. We apologize for that, but this is mostly due to the NeurIPS page limit (otherwise, we would have had to postpone almost all the proofs and insights to the Appendix. Luckily, we will have one extra page of discussions in the revised version – if the paper is accepted). Your suggestions to gain space are also more than welcome: maybe we could remove the proof of Lemma 7 (it is not always clear what brings intuitions to the reader) ?

This extra page will give us room to discuss the relation between the different parameters and why this or that regime is interesting.

A sparser regimes would be interesting. We 100% fully agree with you that studying sparser regimes is of utmost interest. This is definitely future work; notice that this paper is already 26 pages long (and many discussions should be added to give a better understanding!), this is why we believed the actual version of this paper is already quite interesting (as almost all of you said).

We think this is actually a good sign. It shows that this line of work is just open and it will generate follow-up papers.

Only the 2-block model is consider. As above, going beyond 2-block is also left for future work. We had to start by the simple and standard SBM model before generalizing our robustness results. First computations seem to indicate that it is indeed possible to extend our approach to more than 2 blocks, under some relatively strong assumptions (like strong balancedness of all communities and other technical details); but totally satisfactory results requires more work.

More simulations would be appreciated. It's true that we only provide, in the Appendix, "one" simulation (i.e., for one set of parameters) that illustrate the dependency in γ. We will run and add several other simulations to show how the different parameters interplay in practice (we also did not include simulations illustrating the spectrum shape of the random graph - we will add them to the Appendix). That's a great suggestion, thanks.

The model is specific and the results of limited applicability We respectfully disagree. SBM are quite standard and very well studied by different communities. The perturbations we consider are generated via some geometric graph which also sounds quite general to us. Maybe you disagree with our specific choice of the Gaussian kernel, but, as we mention in the text, many other standard kernels could have been used (one just need to redo to proofs and computations to find different constants - but this is merely an exercice). Similarly, the fact that the geometric graph is in 2D is also irrelevant. It can be generalized (again, at the cost of intensive and, we think, without real additional interest computations).

This said, we agree that considering other types of robustness like the "worst-case" one (the detection algorithm should work with any distribution in a ε-ball around the standard SBM one) is also interesting. As before, this is left for future work (and, hopefully, to many follow-up papers).

The term degree is used improperly Thanks, we may use "connectivity" instead.

Thanks again for your feedbacks and constructive reviews. We think we answered your major concerns in this rebuttal and hope that, along with the other positive reviews, it will help you reassess positively your scores.