

- Page 1, in the paragraph starting with “Given a graded module...”: I would reword the sentence starting with “Note that $R(-j)$...” into “The module $R(-j)$ is the ring R with a twisted grading such that ...”
- Page 1, the first paragraph of 1.1: “asymptotic syzygies is the study of ...” sounds a little strange to me. Maybe you could combine the first two sentences of that paragraph into something like “Much of my work has focused on studying the asymptotic properties of the graded Betti numbers (i.e. the syzygies) of a projective variety as the positivity of the embedding grows.”
- Page 1, the paragraph starting with “To give a flavor...”: Maybe change that first sentence to “To give a flavor of these asymptotic results, we will focus on the question...” Something about the grammar of using asymptotic syzygies to refer to the whole field seems a little off to me, but if people use it like that, ignore most of what I’m saying about this.
- The last sentence of page 1: Juliette, I’m really proud of you for using a comma in this sentence. I think it might need a few more but it is a good start and I’m very proud. “Contrary to the case of curves, they show that for higher dimensional varieties, syzygies appear asymptotically in every possible degree.”
- I think it is a really good setup to your work in the lead up to Theorem 1.3. And I like how right after stating your theorem, you show how it generalizes previous work and how it leads to a conjecture.
- On page 3, right after question 1.5: Can you add like a few words about these fairly restrictive hypotheses? Is it a restriction on the curves? on the liaison classes? I don’t think you need to go into detail, but maybe just a few words would be good.
- Start of section 2.2: Should it be “covered by a Jacobian...”
- At the start of section 2.2: Some other times when you mention coauthors for the first time, you use their first names not just last names, so maybe add Wanlin’s first name. I’m guessing you did this for space reasons, and it’s obviously not a big issue.

Also, is Robert on that paper? He is listed as an author in your research statement, but not on the arxiv version.
- I think the first sentence of section 2.3 can be split into two sentences.
“The probability that a random hypersurface of degree d intersects $X \subseteq \mathbb{P}_{\mathbb{F}_q}^r$ smoothly inherently depends on the embedding of X . However, Poonen’s work shows that, as $d \rightarrow \infty$, this probability is independent of the embedding.”

- Section 2.3: At the end of the first paragraph, you write that you and Isabel are working to formalize and prove such a theorem. Is this Conjecture 2.3? It is a little confusing because at the end of the first paragraph, it sounds like you are still in the process of coming up with the correct statement of the theorem, but then at the end of the second paragraph, it seems like you already came up with the statement.