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David Eisenbud <de@berkeley.edu>

Chapter 6

1 message

Izzet Coskun <coskunizzet@gmail.com> Wed, Nov 15, 2023 at 3:47 AM
To: Joe Harris <harris@math.harvard.edu>, David Eisenbud <de@berkeley.edu>

Dear Joe and David,

Here are some comments on Chapter 6.

Best, Izzet

page 134, line 9, repeated a in `theta characteristics on a a general..'

page 134, line 8 of paragraph starting Third, repeated any in `meeting any any four given curves'

page 135, 2. Aren't you saying that the sheaves have degree d on each fiber over B twice?

page 135, in the diagrams in 3 and 4, f and f' are slanted

page 135, line 2 of 6, A should not be capitalized.

page 136, there are two broken references, one to the statement in Hartshorne's book and one to the chapter in the book

page 137, last sentence of example 6.3.1, Hilbert should be capitalized.

page 137. last line, repeated in in `defined in in terms'

page 139, 6.3.2, definition of twisted cubic is missing either rational or nondegenerate

page 140, line 6, repeated is in `what is is naturally'

page 142, line 3 of paragraph 2 of 6.3.4, `it image' should be `its image'

page 142, line 3 of paragraph 3 of 6.3.4, the umlaut in Plucker is broken

page 143, line 5 of Example 6.3.8, you need backslash in \emph
Also, I would again suggest getting rid of the commas in the Plucker coordinates

page 143, line 2 of 6.3.5, I would make () in the G \left(and \right)

page 144, line 1, you have an overfull box

page 144, line 4, do you want a period at the end of the sentence after the map \mu?

page 144, last sentence of 1st paragraph, do you want a period at the end?

page 144, 2nd paragraph, G should again have \left(\right)

page 144, I am not sure I buy your description of the Hilbert scheme. Just because the value of the Hilbert function at m_0 is the right one, why does the value of the Hilbert function for larger m_0 have to be the right one? You could be cutting out the union of several Hilbert schemes this way and I am not sure that the scheme structure is exactly right. Don't you need to do this construction for all m \geq m_0 (or at least for sufficiently many m_0 to pin down the Hilbert polynomial)? You seem to try to avoid discussing flatenning stratifications, which is a smart choice, but maybe warn the reader?

page 144, Overfull box in title of 6.4

page 145, line 4 of paragraph 4, do you want a comma in `closed subset, of this Hilbert scheme'?

page 145, line 5 of paragraph 5, mismatched parentheses in N_{\Gamma/(CxD }

page 145, exercise 6.5.5, Should it be -2 in your second formula? Take the case of a conic d=1, e=2, the dimension should be 8, you get 7. Let's compute the dimension of the projective bundle. We choose a hypersurface of degree d, \choose(d+3, 3) -1 and a hypersurface of degree e modulo those that are divisible by d, \choose(e+3, -3) - \choose(e-d+3, 3) -1.