

Erratum

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Hom stacks

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The main theorem in our paper [1] requires the extra hypothesis that the functor

$$\pi : \mathrm{HOM}_A(\mathcal{X}_A, \mathcal{Y}_A) \rightarrow \varprojlim \mathrm{HOM}_{A_n}(\mathcal{X}_{A_n}, \mathcal{Y}_{A_n})$$

is essentially surjective for any complete local noetherian ring A . Our proof in [1, page 51] is wrong because the stack \mathcal{G}_n is not proper over A_n in general.

This hypothesis is satisfied in the following cases:

Case I. The stack \mathcal{Y} is separated.

In this case the stack \mathcal{G}_n is proper over A_n because it is separated and has a surjection $X_n \rightarrow \mathcal{G}_n$ from a proper scheme.

Case II. $\mathcal{Y} = B\mathbb{G}_m$.

We may assume \mathcal{X}_A is a proper scheme over A as in [1, page 50]. Then the functor π is essentially surjective by the Grothendieck existence theorem for proper schemes. Consequentially Theorem 5.1 in [1] is true.

References

- [1] Aoki, M.: Hom Stacks. *Manuscripta Mathematica* **119**, 37–56 (2006)

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