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A remark on pullbacks in Gumm categories

We study some properties of pullbacks in the context of Gumm categories (see [2, 1]), which extend some known ones in the context of Mal'tsev categories. We mainly consider the cases when the base category is also regular, or almost-exact in the sense of [4]. As an application to Categorical Galois Theory, we obtain a new and simple proof of the fact that every central extension is normal in the Barr-exact Goursat context [3].

References:

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[2] H.P. Gumm, Geometrical methods in congruence modular algebras, *Mem. AMS* 286 (1983) 191-201.

[3] G. Janelidze, G.M. Kelly, Galois theory and a general notion of central extension, *J. Pure Appl. Algebra* 97 (1997) 135-161.

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[*]Joint work with Marino Gran.