

Internal categories in weakly Mal'tsev categories

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We introduce a notion of *weakly Mal'tsev category*, and show that: (a) every internal reflexive graph in a weakly Mal'tsev category admits at most one multiplicative graph structure in the sense of [1] (see also [2]), and such a structure always makes it an internal category; (b) (unlike the special case of Mal'tsev categories) there are weakly Mal'tsev categories in which not every internal category is an internal groupoid. We also give a simplified characterization of internal groupoids among internal categories in this context.

REFERENCES

- [1] G. Janelidze, *Internal categories in Mal'cev Varieties*, Preprint, Toronto (1990).
- [2] A. Carboni, M.C. Pedicchio, N. Pirovano, *Internal graphs and internal groupoids in Mal'cev categories*, CMS, Conf. Proceeding, Vol. 13 (1992) 97-109.