

Abelianess implies quasi-affiness revisited

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We start with a set of definitions:

- (1) An algebra A is a *reduct* of an algebra B if they have the same carrier set and every term operation of A is a term operation of B ;
- (2) A *subreduct* is a subalgebra of a reduct;
- (3) An algebra A is *affine* if there is a module M with the same carrier set as A and such that they have the same polynomial operations;
- (4) An algebra is *quasi-affine* if it is a subreduct of an affine algebra.

Keith Kearnes and Ágnes Szendrei proved the following fact.

Theorem. *Assume that an algebra A belongs to a variety satisfying a nontrivial idempotent Mal'cev condition, or equivalently A has a Taylor term. If A is abelian, then it is quasi-affine.*

We would like to sketch an alternative proof of this fact. Moreover, we indicate that if an abelian algebra A without constant basic operations has a Taylor term, then it is in fact a subreduct of a module.

REFERENCES

- [1] K. Kearnes and Á. Szendrei. The relationship between two commutators. *Int. J. Algebra Comput.* **8** (1998), 497–531.