ISOMORPHISM THEOREMS ON QUASI MODULE

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Abstract

A quasimodel is an algebraic axiomatisation of the hyperspace structure based on a module. We initiated this structure in our paper [2]. It is a generalisation of the module structure in the sense that every module can be embedded into a quasi module and every quasi module contains a module. The structure a quasimodel is a conglomeration of a commutative semigroup with an external ring multiplication and a compatible partial order. In the entire structure partial order has an intrinsic effect and plays a key role in any development of the theory of quasi module. In the present paper we have discussed order-morphism which is a morphism like concept. Also with the help of the quotient structure of a quasi module by means of a suitable compatible congruence, we have proved order-isomorphism theorem.

Keywords: module, quasi module, order-morphism, congruence, quotient.

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REFERENCES

- [1] T.S. Blyth, *Module Theory: an Approach to Linear Algebra* (Oxford University Press, USA).
- [2] S. Jana and S. Mazumder, *An associated structure of a Module*, *Revista de la Academia Canaria de Ciencias* **XXV** (2013) 9–22.

- [3] S. Mazumder and S. Jana, *Exact sequence on quasi module*, South. Asian Bull. Math. **41** (2017) 525–533.
- [4] S. Jana and S. Mazumder, *Quotient structure and chain conditions on quasi modules*, Buletinul Academiei De Stiinie A Republicii Moldova Mathematica **2(87)** (2018) 3–16.

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