

ON THE STRUCTURE THEORY OF LUKASIEWICZ (NEAR) SEMIRING

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ABSTRACT. In a paper by I Chajda, A. Ledda and S. Bonzio, Lukasiewicz near semirings were introduced and it was proven that basic algebras can be represented as (precisely, are term equivalent to) near semirings. In the same work it has been shown that the variety of Lukasiewicz near semirings is congruence regular. In other words, every congruence is uniquely determined by its 0-coset. Thus, it seems natural to wonder whether it could be possible to provide a set-theoretical characterization of these cosets. This talk addresses the above question and shows that kernels can be neatly described in terms of two simple conditions. As an application, a concise characterization of ideals in Lukasiewicz semirings is obtained. Finally, It will be discussed a rather general CantorBernstein type theorem for the variety of involutive idempotent integral near semirings.

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