

S-implications and R-implications on a Finite Chain

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Abstract: This paper is devoted to the study of two kinds of implications on a finite chain L : S -implications and R -implications. A characterization of each kind of these operators is given and a lot of different implications on L are obtained, not only from smooth t-norms but also from non smooth ones. Some additional properties on these implications are studied specially in the smooth case. Finally, a class of non smooth t-norms including the nilpotent minimum is characterized. Any t-norm in this class satisfies that both, its S -implication and its R -implication, agree.

Keywords: t-norm; T-conorm; finite chain; smoothness; implication operator;

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