KYBERNETIKA — VOLUME *42* (2006), NUMBER 3, PAGES 319-336

Distributivity of Strong Implications Over Conjunctive and Disjunctive Uninorms

Daniel Ruiz-Aguilera; Joan Torrens

Abstract: This paper deals with implications defined from disjunctive uninorms U by the expression $I(x,y) = U(N(x),y)$ where N is a strong negation. The main goal is to solve the functional equation derived from the distributivity condition of these implications over conjunctive and disjunctive uninorms. Special cases are considered when the conjunctive and disjunctive uninorm are a t-norm or a t-conorm respectively. The obtained results show a lot of new solutions generalyzing those obtained in previous works when the implications are derived from t-conorms.

Keywords: t-norm; t-conorm; uninorm; implication operator; S-implication; R-implication; distributivity;

AMS Subject Classification: 03B52; 06F05; 94D05;