QL-implications Versus D-implic-ations

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Abstract: This paper deals with two kinds of fuzzy implications: QL and Dishkant implications. That is, those defined through the expressions $I(x, y) = S(N(x), T(x, y))$ and $I(x, y) = S(T(N(x), N(y)), y)$ respectively, where T is a t-norm, S is a t-conorm and N is a strong negation. Special attention is due to the relation between both kinds of implications. In the continuous case, the study of these implications is focused in some of their properties (mainly the contrapositive symmetry and the exchange principle). Finally, the case of non continuous t-norms or non continuous t-conorms is studied, deriving new implications of both kinds and showing that they remain strongly connected.