

# The pliant concept and the Generalized Dombi operator

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2005

## Abstract

This paper studies a special operator system called pliant operators, for which  $f_c(x)f_d(x) = 1$ , where  $f_c(x)$  and  $f_d(x)$  are the generator functions of the conjunction and the disjunction. In the second part we give a generalization of the Dombi operator which involves most well-known operators. We can get the Dombi, product, Einstein, Hamacher, min-max and drastic operators as special cases. The conjunctive and disjunctive operators differ only in the sign of a parameter: i.e. if it is positive we get the conjunctive operator, if it is negative it is the disjunctive operator. The DeMorgan identity is also examined. We show also that the operator is isomorph with the multiplicative utility function.

*Keywords:* Fuzzy operators, t-norm, t-conorm, negation, multiplicative utility, Einstein operator, Hamacher operator