RELAXING BOUNDARY CONDITION FOR t–NORMS

ALEKSANDAR PAVLOVIĆ

Institute of Mathematics, Faculty of Science
University of Novi Sad
Trg D. Obradovića 4, 21000 Novi Sad, YUGOSLAVIA
apavlovic@im.ns.ac.yu

There is introduced a wider class O of binary operators on $[0,1]$ which includes class of t-norms, t-conorms, uninorms, nullnorms and t-operators. This class is obtained replacing boundary condition for t–norms with weaker one. For a new operator C we must have $C(0,0)=0$ and $C(1,1)=1$.

It is well known that a aggregation operator can be constructed using monotone binary operator having 0 and 1 as idempotent elements. Commutativity and associativity are required for construction 'nice' aggregation operator. These conditions are all we acquire from our class of operators O.

From an arbitrary t–norm T, non–decreasing function f and its quasi–inverse, will be defined a new operator in class O which isn't in any of standard classes, and will be shown that in some cases we can, instead of t–norm, use any binary operator which satisfy mentioned conditions.