# GENERALIZED MONOTONE OPERATORS ON DENSE SETS

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**Abstract**

In the present work we show that the local generalized monotonicity of a lower semicontinuous set-valued operator on some certain type of dense sets ensures the global generalized monotonicity of that operator. We achieve this goal gradually by showing at first that the lower semicontinuous set-valued functions of one real variable, which are locally generalized monotone on a dense subset of their domain are globally generalized monotone. We close this work with a section on the global generalized convexity of a real valued function, which is obtained out of its local counterpart on some dense sets.