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Summary: “In relation to fuzzy decision processes, a brief survey on ordering of fuzzy numbers on $\mathbb{R}$ is presented and an extension of the ordering to fuzzy sets (numbers) on $\mathbb{R}^n$ is considered. This extension is a pseudo order $\preceq_K$ defined by a non-empty closed convex cone K and characterized by the projection onto its dual cone K^+ . In particular, a lattice structure is presented on the class of pyramid-type fuzzy sets. Moreover, we study the convergence of a sequence of fuzzy sets on $\mathbb{R}^n$ which is monotone with respect to the order $\preceq_K$. Our study is carried out by restricting the class of fuzzy sets to the subclass on which the order $\preceq_K$ becomes a partial order so that a monotone convergence theorem can be proved. This restricted subclass of fuzzy sets is created and characterized using the concept of a determining class. These results are applied to obtain a limit theorem for a sequence of fuzzy sets defined by a dynamic fuzzy system with a monotone fuzzy relation. Several figures are given to illustrate our results.”

{For the entire collection see [MR1865071 \(2002e:90006\)](#)}

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