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**Hans-Peter Scheffler** (scheffler@mathematik.uni-siegen.de), Siegen, Germany, and **Stilian A Stoev\*** (sstoev@umich.edu), 1085 S. University, Ann Arbor, MI 48109. *Implicit Extremes and Implicit Max-Stable Laws.*

Let  $X_1, \dots, X_n$  be iid random vectors and  $f \geq 0$  be a non-negative function. Let also  $k(n) = \operatorname{Argmax}_{i=1, \dots, n} f(X_i)$ . We are interested in the distribution of  $X_{k(n)}$  and their limit theorems. In other words, what is the distribution the random vector where a function of its components is extreme. This question is motivated by a kind of inverse problem where one wants to determine the extremal behavior of  $X$  when only explicitly observing  $f(X)$ . We shall refer to such types of results as to *implicit extremes*. It turns out that as in the usual case of explicit extremes, all limit *implicit extreme value* laws are *implicit max-stable*. We characterize the regularly varying implicit max-stable laws in terms of their spectral and stochastic representations and illustrate the theory with examples drawing connections to *hidden regular variation* and regular variation on general cones. (Received January 05, 2015)