CHARACTERIZATION OF THE SKEW-NORMAL DISTRIBUTION

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Abstract. Two characterization results for the skew-normal distribution based on quadratic statistics have been obtained. The results specialize to known characterizations of the standard normal distribution and generalize to the characterizations of members of a larger family of distributions. Results on the decomposition of the family of distributions of random variables whose square is distributed as χ_1^2 are obtained.

Key words and phrases: Non-normal distribution, chi-square distribution, half-normal distribution, skew-symmetric distribution, sequence of moments, induction, decomposition, characteristic function.