Koepf, Wolfram; **Masjed-Jamei, Mohammad**
A generalization of Student's t-distribution from the viewpoint of special functions. (English)

The authors present a generalization of Student t-distribution based on Cauchy integral; the new distribution depends on four parameters. In the same way as the classical distribution tends to the normal law as the number of degrees of freedom goes to infinity so does the generalized distribution converge to the normal law. Mean value and variance of the new distribution are given. A generalization of Fisher F-distribution is also given and it is shown that it tends to the chi-square law. The last part of the paper is devoted to the consideration of particular cases.

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Classification :
    ∗60E05 General theory of probability distributions
    62E20 Asymptotic distribution theory in statistics
    33C45 Orthogonal polynomials and functions of hypergeometric type