CHARACTERISTICS FUNCTION OF THE *FOUR-PARAMETER GENERALIZED t* DISTRIBUTION

Abstract

The main purpose of this research is to determine mathematically and graphically the characteristic function of the *four-parameter generalized t* distribution. The *four-parameter generalized t* distribution has four parameters which are: the shape parameter (p, q), the location parameter (μ), and the scale parameter (σ) and B as a beta function. The characteristic function can be used to determine the distribution function from a random variable that is known as inversion theorem of characteristic function. The characteristic function can be determined by using the definition and trigonometry expansion. Both methods show similar forms of the characteristic function of the *four-parameter generalized t* distribution. Graphically, the forms of the characteristic function of the *four-parameter generalized t* distribution is a smoothly circle curve.

Keywords: *t distribution*, *four-parameter generalized t* distribution, characteristics function, the properties of characteristic function.