

CRAMER-VON MISES TEST AND DURBIN-KNOTT COMPONENTS

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The classical Cramér-von Mises statistic is designed to test the distribution uniformity of the observed random variable. Here, its modifications is presented for testing the parametric hypothesis $H_0 : F(t) = x + [\theta_1\varphi_1(t) + .. + \theta_k\varphi_k(t)]/\sqrt{n}$, $(\theta_1, \dots, \theta_k) \in \Theta$, $t \in [0, 1]$. The number k can be equal to ∞ . $F(x)$ must be the distribution function for all point from Θ . H_0 depends of the sample size. Proposed test does not depends of parameters and consequently it does not need to provide its estimation. The work deals with the generalized Durbin-Knott components of the empirical process (see [1,2]). The limit distribution of the statistic can be represented by the distribution of the quadratic form of the independent or dependent normal variables. The methods of computing these distribution can be find in [1]. The empirical processes for this problem are the weighted empirical processes arising in the Anderson-Darling statistics or the process with the power weight function from [2].

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