

Real-life experiments often yield non-identically distributed data which have to be analyzed using statistical modelling techniques. Tests of hypothesis under such set-ups are generally performed using the likelihood ratio test, which is highly non-robust with respect to outliers and model misspecification. In this paper, we consider the set-up of non-identically but independently distributed observations and develop a general class of test statistics for testing parametric hypothesis based on the density power divergence. The proposed tests have bounded influence functions, are highly robust with respect to data contamination, have high power against contiguous alternatives and are consistent at any fixed alternative. The methodology is illustrated on the linear regression model with fixed covariates.