

An updated review of Goodness-of-Fit tests for regression models

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Abstract

This survey intends to collect the developments on Goodness-of-Fit for regression models during the last 20 years, from the very first origins with the proposals based on the idea of the tests for density and distribution, until the most recent advances for complex data and models. Far from being exhaustive, the contents in this paper are focused on two main classes of tests statistics: smoothing-based tests (kernel-based) and tests based on empirical regression processes, although other tests based on Maximum Likelihood ideas will be also considered. Starting from the simplest case of testing a parametric family for the regression curves, the contributions in this field provide also testing procedures in semiparametric, nonparametric, and functional models, dealing also with more complex settings, as those ones involving dependent or incomplete data.