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**Powerful nonparametric checks for quantile regression.** (English) Zbl 1358.62048  
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Summary: We propose a new and simple lack-of-fit test for a parametric quantile regression. It involves one-dimensional kernel smoothing, so that the rate at which it detects local alternatives is independent of the number of covariates. The test has asymptotically Gaussian critical values, and wild bootstrap can be applied to obtain more accurate ones in small samples. Our procedure appears to be competitive with existing ones in simulations and in an empirical application with several covariates.

**MSC:**

62G10 Nonparametric hypothesis testing  
62G08 Nonparametric regression and quantile regression  
62G07 Density estimation  
62G20 Asymptotic properties of nonparametric inference

Cited in 2 Documents

**Keywords:**

goodness-of-fit test;  $U$ -statistics; smoothing; quantile regression; Gaussian critical values; wild bootstrap

**Software:**

quantreg

**Full Text:** [DOI](#) [arXiv](#)

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