On goodness-of-fit testing with survival data

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In this talk I will present a new general strategy for goodness-of-fit testing with survival data. The setting is that of testing for a parametric family of distribution functions when the data are deteriorated due to random censoring and/or random truncation. A key step is the characterization of the null hypothesis through a moment equation which involves the estimation of the observable distribution under both the null and the alternative. A new omnibus test will be proposed, and its theoretical properties will be presented. Particular applications include, but are not limited to, right-censored data, left-, right- or doubly-truncated data, or interval censored data. Advantages with respect to existing methods will be discussed. The finite sample performance of the test will be investigated through simulations. Illustrative real data analyses will be given. This is joint work with Juan Carlos Escanciano.

Keywords: Censoring, Nonparametric Statistics, Specification Tests, Survival Analysis, Truncation.