

Methods for estimating the probability density function are considered under the circumstance that the underlying measurements are interval-censored. Density and distribution function estimators are proposed under parametric and nonparametric assumptions on the censoring mechanism. Conditions for identifiability and consistency of the estimates are established theoretically, and it is shown that under such conditions, the estimates converge to the truth at a polynomial rate in the inverse sample size. An online supplement contains the technical arguments as well as practical guidelines for numerical implementation of the proposed methods. [The core of the theory in this paper was originally drafted by Peter Hall in early 2010, following discussions at a workshop on mismeasured data held in Canada in December, 2009 at which Peter was the keynote speaker. The co-authors are grateful for the follow-up conversations held with Peter by long distance over the years prior to his regretful passing.]