Ann Inst Stat Math (2011) 63:497–509
DOI 10.1007/s10463-009-0231-7

Representations of efficient score for coarse data problems based on Neumann series expansion

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Received: 1 May 2008 / Revised: 14 October 2008 / Published online: 6 May 2009

Abstract We derive new representations of the efficient score for the coarse data problems based on Neumann series expansion. The representations can be applied to both ignorable and nonignorable coarse data. Approximations to the new representations may be used for computing locally efficient scores in such problems. We show that many of the successive approximation approaches to the computation of the locally efficient score proposed in the literature for such problems can be derived as special cases of the representations. In addition, the representations lead to new algorithms for computing the locally efficient scores for the coarse data problems.

Keywords Auxiliary variable · Adjoint operator · Coarsening at random · Nonparametric information operator · Projection