Annals of the Institute of Statistical Mathematics (2022) 74:515–537
https://doi.org/10.1007/s10463-021-00807-1

The variable selection by the Dantzig selector for Cox's proportional hazards model

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Received: 22 October 2019 / Revised: 23 May 2021 / Accepted: 30 July 2021 /
Published online: 31 August 2021

Abstract
The proportional hazards model proposed by D. R. Cox in a high-dimensional and sparse setting is discussed. The regression parameter is estimated by the Dantzig selector, which will be proved to have the variable selection consistency. This fact enables us to reduce the dimension of the parameter and to construct asymptotically normal estimators for the regression parameter and the cumulative baseline hazard function.

Keywords Proportional hazards model · Dantzig selector · Variable selection · The Breslow estimator

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