PROBABILITY AND

MATHEMATICAL STATISTICS

Vol. 41, Fasc. 1 (2021), pp. 115–127 Published online 8.4.2021 doi:10.37190/0208-4147.41.1.8

LINK FUNCTIONS FOR PARAMETERS OF SEQUENTIAL ORDER STATISTICS AND CURVED EXPONENTIAL FAMILIES

BY

GRIGORIY VOLOVSKIY (AACHEN), STEFAN BEDBUR (AACHEN), AND UDO KAMPS (AACHEN)

Abstract. Estimation of model parameters of sequential order statistics under linear and nonlinear link function assumptions is considered. Utilizing the arising curved exponential family structure, conditions for existence and uniqueness as well as the validity of asymptotic properties of maximum likelihood estimators are stated. Minimal sufficiency and completeness of the associated canonical statistics are discussed.

2020 Mathematics Subject Classification: Primary 62F10; Secondary 62N05, 62N02.

Key words and phrases: sequential order statistic, maximum likelihood estimation, curved exponential family, link function.

THE FULL TEXT IS AVAILABLE HERE

© Probability and Mathematical Statistics, 2020