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BAYES EMPIRICAL BAYES ESTIMATION FOR DISCRETE EXPONENTIAL FAMILIES

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Abstract. Bayes-empiric Bayes estimation of the parameter of certain one parameter discrete exponential families based on orthogonal polynomials on an interval (a, b) is introduced. The resulting estimator is shown to be asymptotically optimal. The application of this method to three special distributions, the binomial, Poisson and negative binomial, is discussed.

Key words and phrases: One parameter exponential families, Jacobi polynomials, Laguerre polynomials, estimation of the prior density.