

## A MOMENT'S APPROACH TO SOME CHARACTERIZATION PROBLEMS

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**Abstract.** For a random sample from a population having a finite  $k$ -th moment, it is shown that the constancy of regression of polynomial statistics of order  $k$  in the mean implies that all higher moments exist and are uniquely determined by the first  $k$  moments. This result is utilized to give a moment's approach to some characterization results.

*Key words and phrases:* Regression, polynomial statistics, characterization, Meixner hypergeometric, Meixner class.