

UMW Department of Mathematics Announcement

Does an Infinite Set of Moments Uniquely Determine a Distribution?

Presented by

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B6 Trinkle Hall

Abstract: In statistics, the moment-generating function of a random variable is an alternative specification of its probability distribution. Thus, it provides the basis of an alternative route to analytical results compared with working directly with probability density functions or cumulative distribution functions. That is, we typically define random variables in such a way to help answer questions of interest, however determining the distribution can be tricky. In this talk we will show that moment-generating functions if used properly, can lead to some extremely powerful results. In particular, we will present a variety of applications that moment-generating functions offer, including a clever technique that will ultimately allow us to answer the question; “If we have an infinite set of moments, can we determine the distribution?”

“Mr. Bartlett is a candidate for an open position in the department”

