GRADUATE SEMINAR

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On Probability Properties of the Crack distribution

Master's Student supervised by Edward Doolittle and Andrei Volodin

Monday, April 4th

3:30pm

Math Lounge (CW307.20)

Abstract: In this talk, we present a family of three-parameter lifetime distribution which contains three known distributions: The Inverse Gaussian distribution, the Length Biased Inverse Gaussian distribution and the Birnbaum-Saunders distribution. This three-parameter distribution relates to the phenomena of the crack development in Physics and Engineering and hence it is called the Crack Lifetime distribution (CR). Our goal is to establish Probability Properties of the Crack distribution. We derive the distribution function and the moment generating function. Next, we prove that the reciprocal to a Crack random variable is again a Crack random variable and find its parameters. We also investigate conditions when a sum of two independent Crack distributed random variables has a Crack distribution.

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Mathematics and Statistics