

GRADUATE SEMINAR

The Birnbaum Saunders Distribution: Motivation and Extension

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Date: March 28th, 2017

Time: 1:45 p.m.

Location: Math & Stats Lounge 307.20

Abstract: Estimating time to failure of materials subject to fatigue has obvious benefits, particularly in consideration of the costs and potential catastrophe that can result from unexpected failure. Mid-20th century models of fatigue rely on a framework whereby the phenomenon is assumed to be the aggregation of incremental damages culminating in exceedance of a critical failure threshold.

This seminar will discuss the potential shortcomings of a simplistic fatigue model as well as a more sophisticated probabilistic model proposed by Birnbaum and Saunders to overcome them. It will pay specific attention to the BS probability distribution their model motivates as well as applications, extensions and/or generalizations thereof.