A System with Stochastically Dependent Failure Modes with Shock-Accumulation Effect

Ji Hwan Cha[1], **Carmen Sangüesa**[2], **Inma T. Castro**[3],

SUMMARY

In this work, a stochastic failure model for a system with two dependent failures is proposed. The system can fail due to two causes of failure: the failure due to accumulated wear and that due to the catastrophic failure. We analyze the dependence structure of the two competing failure modes. Based on these properties, we develop a maintenance strategy for such system and study the optimal maintenance policy which minimizes the long-run average cost rate.

[1]Department of Statistics
 Ewha Womans University (Seoul, Korea)
 email: `jhcha@ewha.ac.kr`

[2]Departamento de Mtodos Estadsticos
 Universidad de Zaragoza
 email: `csangues@unizar.es`

[3]Departamento de Matemticas
 Universidad de Extremadura
 email: `inmatorres@unex.es`