Probabilistic Progressive Fracture for System Reliability of Large-scale Structural Systems

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A. Goals: To develop a new system reliability method that utilizes Structural Health Monitoring (SHM) information to make near real-time predictions of structural reliability, prognoses inspection and repair requirements of large-scale structural systems.

B. Brief Description: Compute reliability of large-scale structures subject to progressive crack growth. Identify critical crack locations given SHM information and determine critical crack paths.

A. Heights of Achievements this semester:
• Investigate methods to predict critical failure sequences of a structure such us branch-and-bound and B³ method.

B. Problems/Concerns that prevent your progress:
• None as of right now
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Probabilistic progressive fracture flow-chart