

AE 737 - Mechanics of Damage Tolerance

Lecture 15

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- 22 Mar - Stress based fatigue, Homework 6 assigned
- 24 Mar - Stress based fatigue
- 29 Mar - Influence of notches on fatigue, Homework 7 assigned, Homework 6 due
- 31 Mar - Strain based fatigue, project abstract due

1. fatigue

fatigue

- We refer to damage from repeated, or cyclic loads as fatigue damage
- Some of the earliest work on fatigue began in the 1800's
- Chains, railway axles, etc.
- An estimated 80% of failure expenses are due to fatigue

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- Stress based fatigue analysis
- Strain based fatigue analysis
- Fracture mechanics fatigue analysis

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- This is referred to as constant amplitude stressing

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