Spacecraft Fire Safety Research Plans
2001-2010 Timeline

Research Categories | 2001 | 2004 | 2010

Flammability of Materials

- -Deep seated fires in non-1g environments
- -Autoignition and explosion of in-situ propellants
- -Flammability of plastic and composites in partial-g
- -Improved test methods to rank materials

→ -Flammability measurements and correlation from microgravity to 1g
-New validated test methods for material rankings

- -Limiting oxygen and flow for flame propagation
- -Practical material flammability for in-situ propellants

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Fire Signatures and Detection

- -Component level sensors
- -Method to characterize fire signatures

→ -Complete data base for fire signatures and demonstration of new detection systems

- -Integrated sensors
- -Fire signatures of practical materials

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Fire Suppression

- -Fire extinguishants
- -Flame growth and stability models in practical configurations
- -Extinguishment in non-1-g
- -Trade-off of flame-suppression techniques

→ -Experimentally (microgravity and partial-g) validate fire suppressant performance, analysis, and models

- -Dispersion techniques
- -Flame suppression methods

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