DARPA Efforts and Interests in Composites

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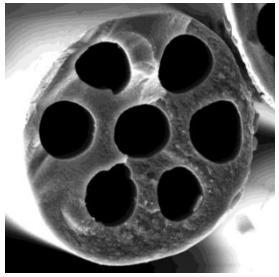
Existing Efforts

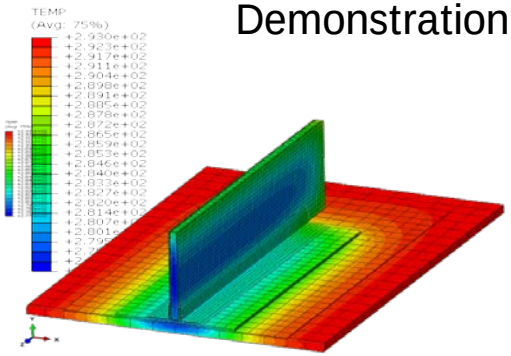
Advanced Structural Fiber

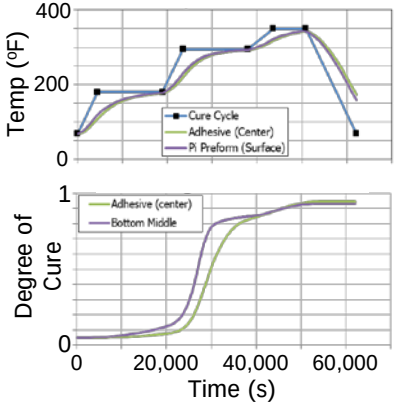
- Precursor development
- Process/Material Understanding
- Improved properties

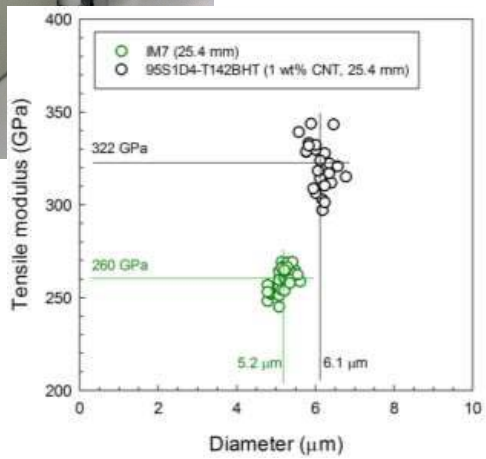
Open Manufacturing

- Technology Insertion Program
- Bonded Composite Confidence
- Informatics/Probabilistic Process Modeling
- Composites Manufacturing Demonstration Facility





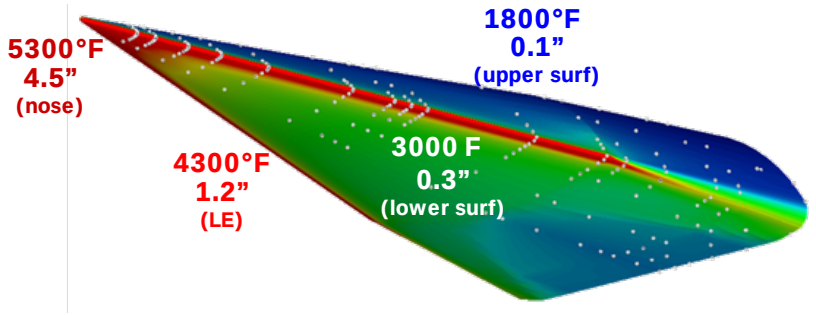




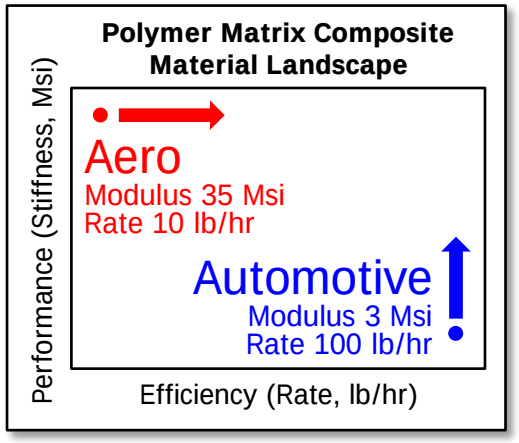
Composite Interests

Hypersonic Material Systems

- Materials Systems
  - Composites
  - Metallics
  - Coatings
- Processing
  - Open Manufacturing
  - Additive Manufacturing
- Material System Integration



- Aerospace Performance at Automotive Efficiency
  - New Material Formats
  - Thermoplastics
  - New Tooling Approaches
  - Small Part Processing



DARPA/NSF Workshop Insights

- Composites is a commodity based on industry and material type
  - Aerospace: Graphite/Polymer composite laminates
  - Automotive: SMC
  - Marine: Glass/Polymer
- Issues are broader than technical and economic
  - Application and marketplace requirements exceed economics
  - Unifying technology requirements not evident
- Supply Chain Issues
  - Technology availability not consistent
  - Expertise, skill, and confidence is specific to market and place in supply chain
  - Workforce development issues