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Carbon nanotubes soldering for high performance composites[1]

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Individual carbon nanotubes exhibit very interesting mechanical and electric properties. At present carbon nanotubes are available in large quantities and, in principle, they should find their way as filler of choice for polymer composites. Yet, in practice, carbon nanotube composites often show deceiving properties. In this presentation we will introduce the concept of carbon nanotubes soldering discuss some promising examples of its applications to design high performance composites. In particular we will demonstrate the utility of nanotube soldering to attain high temperature mechanical and solvent resistance, properties essential for many composite applications. Work done in collaboration with Thomas Périé and Sylvie Tencé-Girault.

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