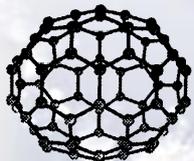




Glenn Research Center



# Fullerene Production in Microgravity

## ◆ Objectives

- Separate effects of gravity driven flow and pressure on fullerene formation in flames
- Develop fundamental understanding of formation mechanism
- Identify engineering principles for large-scale manufacturing

## ◆ Reduced Gravity Advantage

- Offers ability to investigate pressure dependence on formation mechanism while maintaining low buoyant force with reduced gravity ( $F_{\text{buoyant}} \sim \rho^2 g$ )

## ◆ Applications (Active Areas of Research on Earth)

- Conductive nano wires and tube structures
- Superconductive and organo-magnetic substrates
- Pharmaceuticals
- Lubricants
- Composite materials
- Specialized coatings and interfacing membrane substrates

