

## **Materials Technology Leads AFRL Space Initiative**

The U.S. Air Force is developing a new array of advanced aerospace materials and manufacturing technology on which to base a whole new class of sensors, structures and optics needed for development of advanced launch and military satellite systems.

This aerospace materials revolution is being led by the Materials Directorate of the Air Force Research Laboratory (AFRL) here. Work underway includes new efforts on composites, ceramics, thin films, advanced detector materials, and unique polymer and biotechnology options. Low-observable spacecraft materials are also being developed, although AFRL engineers cannot discuss them because of security restrictions.

The organization, which coordinates USAF manufacturing technology development, is funded at about \$250 million per year and already has an extensive history in space materials work, said Charles E. Browning, who heads the Materials Directorate.

The directorate has been directly involved in 35 years of reentry vehicle materials development and earlier Strategic Defense Initiative work, Browning said.

Anticipating USAF's "migration to space," the directorate in 1993 designated space a "special emphasis area." It is increasing that focus and gearing to devote about 30% of its resources to space by 2005, compared with about 20% now. Conversely, new aircraft materials work is to drop to about 25% by 2005, from 34% now.

A major objective will be increased materials partnering with industry, other AFRL directorates and federal agencies, especially NASA, said Michael Stropki, who heads the Space Materials Office. An example is the cochairmanship the directorate shares with NASA on the critical materials board for the Marshall Integrated High-Performance Rocket Technology Effort.