

## VI. The AFCRL Flying Thread Loom Process for Improved Scrim-Reinforced Balloon Materials

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### Abstract

The cost of reliable, scrim-reinforced balloon materials has been substantially reduced through use of the AFCRL Flying Thread Loom (FTL). This versatile machine promises to extend the present capabilities of scientific ballooning by providing improved lightweight materials for extreme altitudes and thin films of unusual strengths for extra-heavy payloads.

The principle of operation is described and results of flight tests using two new FTL materials are reported. Savings in cost and in balloon-volume requirements are demonstrated by charts. Future plans include addition of a gore-cutting and tailoring device and a card input control mechanism.