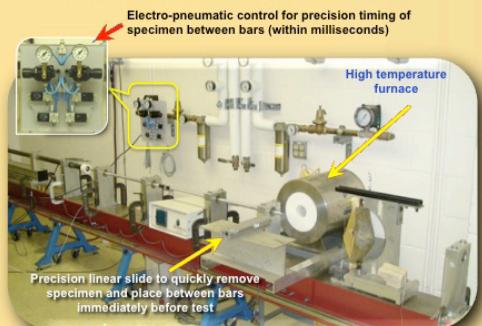


### Newly Developed Kolsky Bars at Sandia California

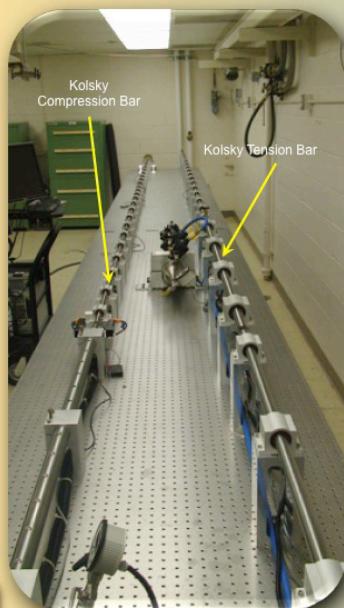
**The finest Kolsky bars for high-rate characterization of materials under various loading and environmental conditions**

- Kolsky Compression Bar
- Kolsky Tension Bar
- High Temperature Kolsky Bar

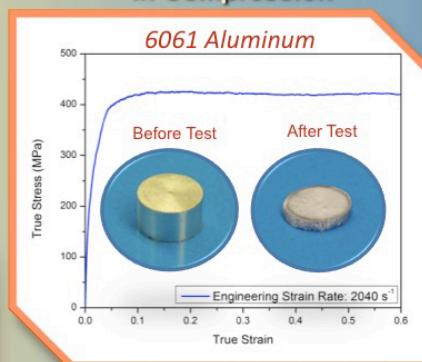
#### High-temperature Kolsky Bar



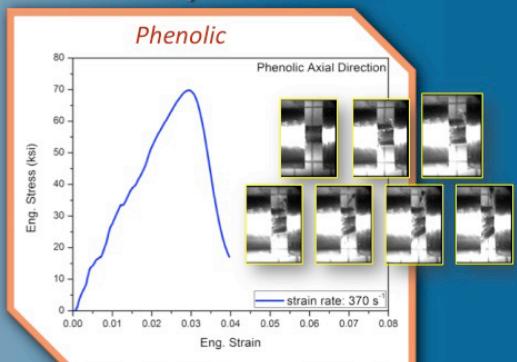
Newly Developed Kolsky Bars at Sandia California



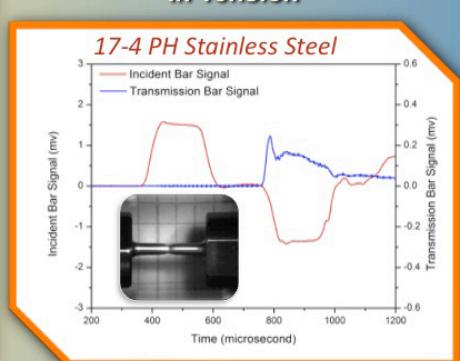
#### In Compression



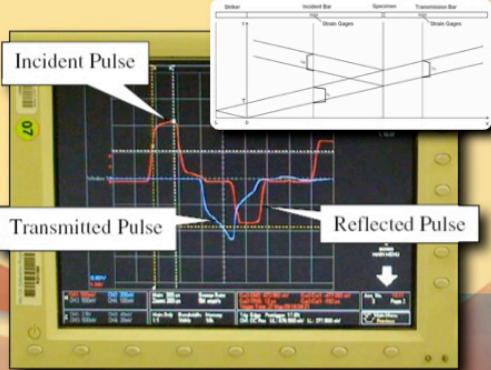
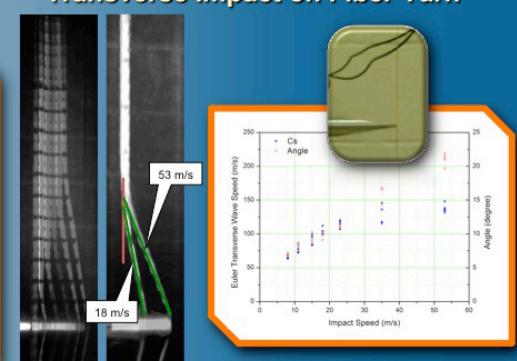
#### In Compression



#### In Tension



#### Transverse Impact on Fiber Yarn



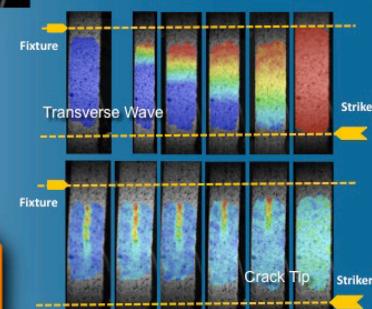
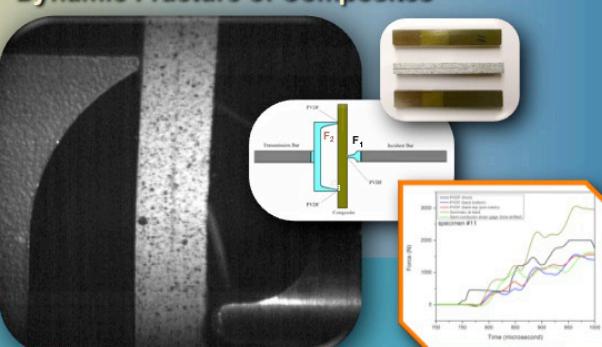
$$\dot{\varepsilon} = \frac{u_1 - u_2}{l_0} = \frac{C_b}{l_0} (\varepsilon_i - \varepsilon_r - \varepsilon_t)$$

$$\varepsilon = \int_0^t \dot{\varepsilon}(\tau) d\tau$$

$$\sigma = \frac{F_1 + F_2}{2A_0} = \frac{E_b A_b}{2A_0} (\varepsilon_i + \varepsilon_r + \varepsilon_t)$$

$$\sigma \sim \varepsilon$$

#### Dynamic Fracture of Composites



Sandia National Laboratories

Operated by

LOCKHEED MARTIN