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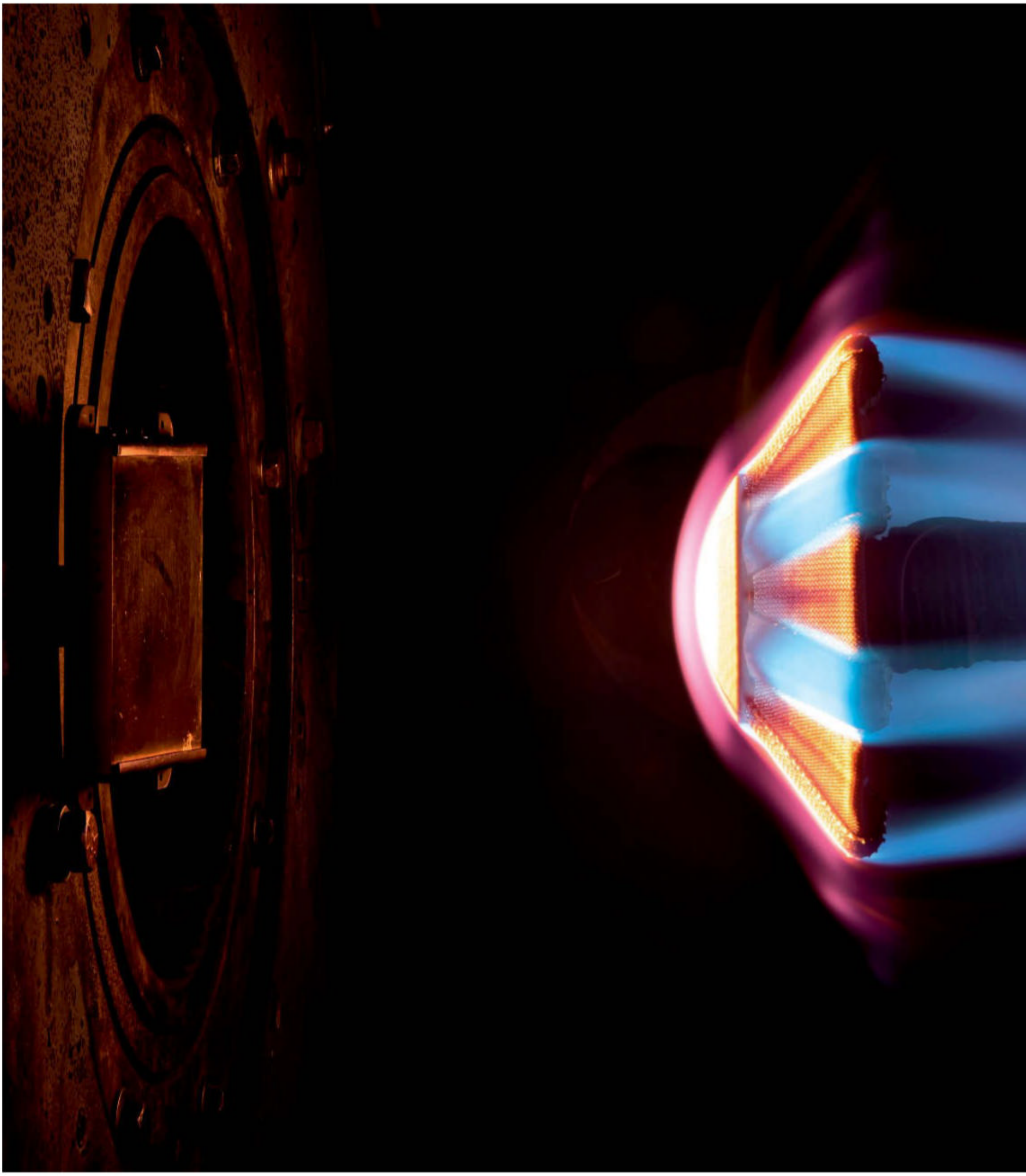

The heat is on

Photographer **Patrick Viruel/NASA**

THIS spectacle captured at NASA's Ames Research Center in Silicon Valley, California, could have important ramifications for future space missions. The material in the photo might one day allow vehicles to safely enter the atmospheres of other planets without burning up, as well as free up more room inside spacecraft.

Taken by photographer Patrick Viruel, the image shows a new type of fabric called Spiderweave being tested for NASA's Adaptable, Deployable, Entry and Placement Technology (ADEPT), an entry system it has designed for galactic missions. Because planetary atmospheres can reach scorching temperatures of several thousand degrees Celsius, ADEPT requires a heat shield made of a material that can withstand such extreme conditions without disintegrating or tearing apart.

Unlike previously tested materials that were made by stitching together individual panels, Spiderweave is continuously woven into the heat shield's fabric, making safe and efficient space travel to other planets by rovers, shuttles and other vehicles all the more likely.

The ADEPT team found that Spiderweave fared well when exposed to a temperature of 1500°C. It can also be compactly stored upon launch, which is useful for saving space for scientific payloads that researchers want to take to and from planets such as Mars.

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