

2020:

A NEW ERA OF SOLAR ASTRONOMY

Working together to study the Sun

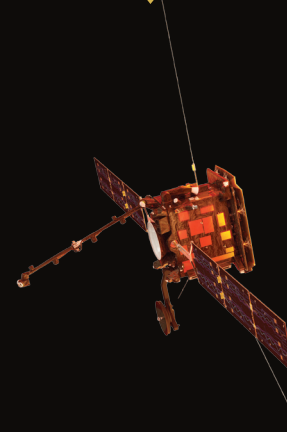
A new era for solar astronomy is dawning, specifically because of three separate observation initiatives. Each is equipped with the necessary tools and located where they can best achieve those goals. Ultimately, because of their different, yet complementary approaches to studying the sun, these efforts led by the National Science Foundation, NASA and the European Space Agency, will augment what each can do, making robust scientific endeavors even better. Together, they create a comprehensive understanding of our sun.

	NSF's Daniel K. Inouye Solar Telescope	ESA/NASA Solar Orbiter	NASA Parker Solar Probe
Mission	Ground-based remote observation and mapping	Space-based measurements	Space-based measurements
Research goals	Map Sun's surface & its atmospheric magnetic fields, especially the inner corona, where solar storms begin	Make detailed measurements of the solar wind, which is responsible for sending problematic radiation towards Earth	Probing the Sun's outer corona (part of its atmosphere) to understand origins of the solar wind
Closeness to Sun	91 million miles (Earth)	35 million miles (similar to distance of Mercury)	4 million miles (nearest to Sun)
Length of Mission	44 years	7 years	7 years
Telescope Size	4m	12.5cm (equivalent to 50cm telescope on Earth)	No telescope observing Sun's surface
Image resolution	Can clearly resolve solar features the size of 330 football fields	Can clearly resolve solar features the size of 2,200 football fields	n/a

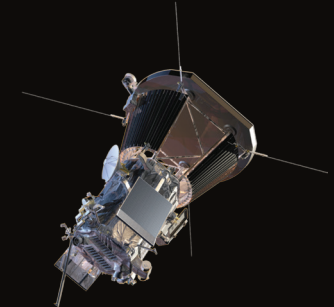
NSF's Daniel K. Inouye Solar Telescope



ESA/NASA Solar Orbiter



NASA Parker Solar Probe



National Science Foundation