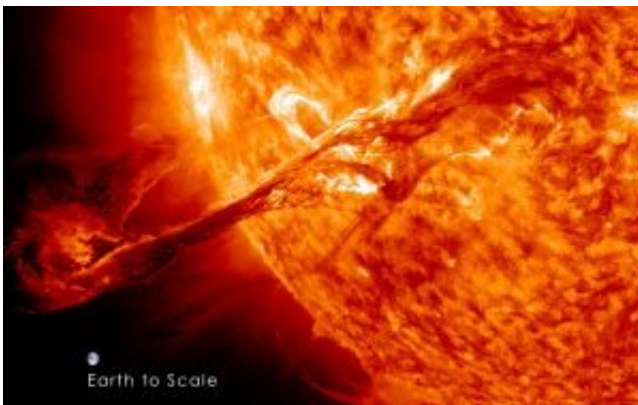


NASA's PUNCH mission announces rideshare with SPHEREx and new launch date

August 3 2022, by Abbey Interrante



In this image, Earth is shown to scale with a coronal mass ejection that occurred on August 31, 2012. While Earth's size is shown to scale, its distance is not (Earth is much farther from the sun than shown here). Credit: NASA/Goddard Space Flight Center

NASA's Polarimeter to Unify the Corona and Heliosphere (PUNCH) mission will share a ride to space with NASA's Jet Propulsion Laboratory's Spectro-Photometer for the History of the Universe, Epoch of Re-ionization, and Ices Explorer (SPHEREx) mission. The missions will launch no earlier than April 2025 on a SpaceX Falcon 9.

"It's great to have a definite launch date and vehicle, and we're looking forward to working with the SPHEREx team as we 'carpool' to orbit,"

said Craig DeForest, PUNCH principal investigator at Southwest Research Institute in Boulder, Colorado. "Rideshares are a great way to save money by taking better advantage of each rocket's capability."

The contract with SpaceX was updated to include PUNCH and was awarded July 14, 2022. The PUNCH team was able to adjust its schedule to meet the new launch date of no earlier than April 2025 and used this new schedule flexibility to mitigate some schedule constraints due to supply chain challenges.

PUNCH, which consists of four suitcase-sized satellites, will focus on the sun's outer atmosphere (the corona) and how it generates the [solar wind](#). The spacecraft also will track [coronal mass ejections](#)—large [eruptions](#) of solar material that can drive large space weather events near Earth—to better understand their evolution and develop new techniques for predicting such eruptions.

The four satellites will spread out around Earth along the day-night line, which enables it to create a continuous, complete, view of the corona and inner solar system. Three of the PUNCH satellites will carry identical Wide Field Imagers, which together image the [corona](#) and solar wind over a 90-degree field of view (out to 45 degrees away from the sun). In skywatching terms, 90 degrees covers the part of the sky from the horizon to the point directly overhead. The fourth PUNCH [satellite](#) carries a Narrow Field Imager [coronagraph](#), which will study regions closest to the sun. All four cameras will be synchronized in flight, so that the mission science team can combine their images seamlessly into a single large field of view.

PUNCH is led by Southwest Research Institute's office in Boulder, Colorado. The mission is managed by Explorers Program Office at NASA's Goddard Space Flight Center in Greenbelt, Maryland, which is managed by Goddard for NASA's Science Mission Directorate in

Washington. Southwest Research Institute will build the Wide Field Imagers and will build and operate PUNCH. The Naval Research Laboratory in Washington will build the Narrow Field Imagers and provide optical testing. RAL Space in the United Kingdom will provide detectors and calibration for the mission.

Provided by NASA

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