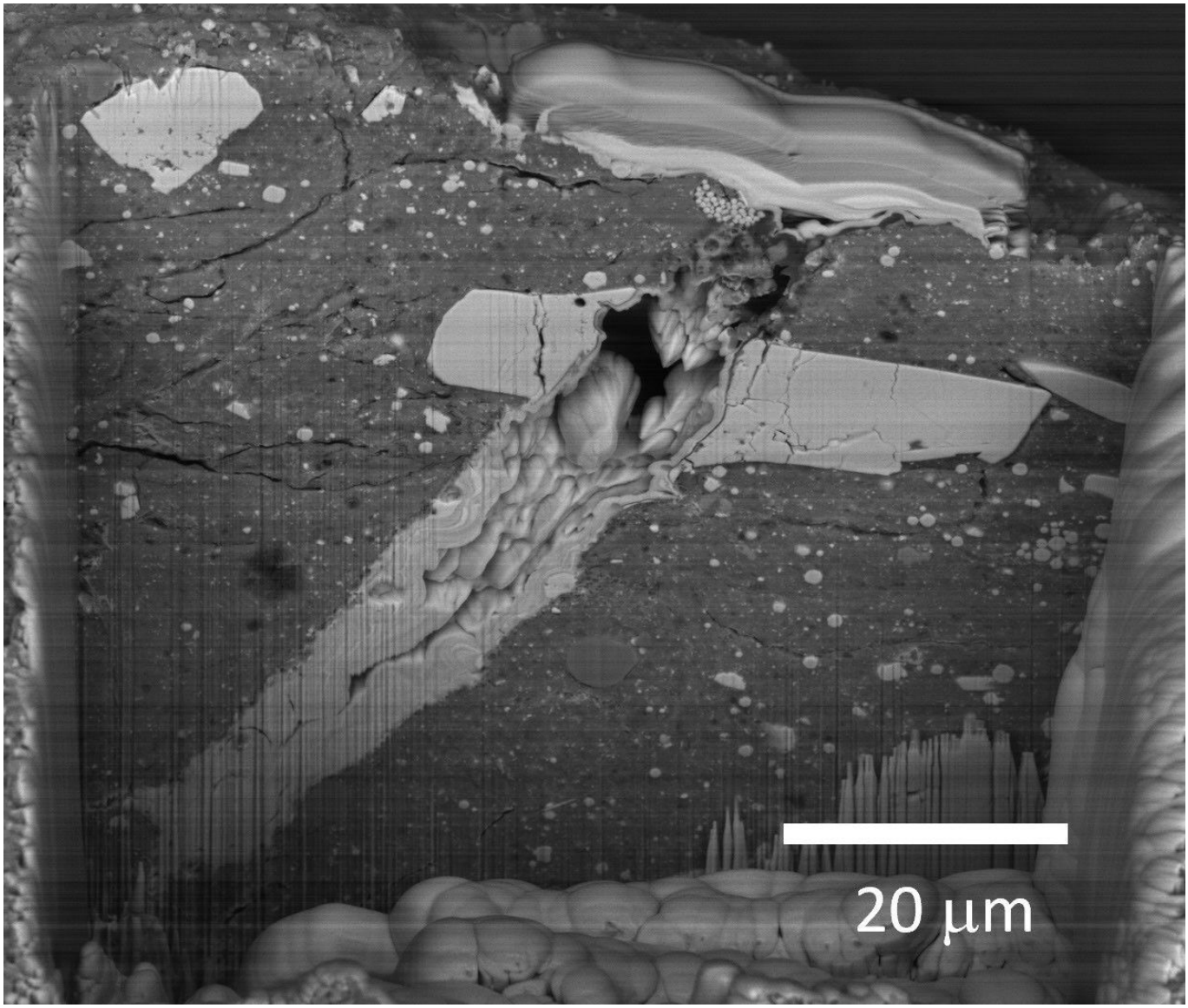
NASA researchers published in the journal Nature Astronomy new results of studying the composition of the star dust from asteroid Benn, from which in 2023 the NASA OSIRIS-REX probe delivered unique material to the Earth.

New studies have shown that the particles with Benn contain elements that existed even before the appearance of the sun and, accordingly, the solar system. Unusual organic compounds are also contained, probably formed in the interstellar space.



NASA / Zia Rahman

The analysis showed that there was a lot of ice on the asteroid that melted and mixed with

minerals. As a result, compounds were formed that could appear when contacting water and solid rocks in conditions of relatively low temperatures – about 25 degrees Celsius. Scientists suggest that within the initial body of the asteroid for billions of years, chemical processes that contributed to the emergence of life could occur. And this is very important data for science, with which the history of the universe becomes clearer.

In addition, it is noted that on the surface of the asteroid, the probe collected a material indicating the cosmic weathering of the breed, including miniature craters and drops of molten breed from micrometeorites and solar winds. This suggests that the substance of the asteroid has constantly changed both inside and outside.