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Study of the effects of the outer space environment on dormant forms of microorganisms, fungi and plants in the 'Expose-R' experiment

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Abstract

© 2015 Cambridge University Press . Investigations of the effects of solar radiation combined with the spaceflight factors on biological objects were performed in the «EXPOSE-R» experiment on the outer surface of ISS. After more than 1 year of outer space exposure, the spores of microorganisms and fungi, as well as two species of plant seeds were analysed for viability and the set of biological properties. The experiment provided evidence that not only bacterial and fungal spores but also dormant forms of plants had the capability to survive a long-term exposure to outer space.

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Keywords

air-dried seeds, dormant forms of various microorganisms, outer space, planetary quarantine