

# **Perturbations to planetary biospheres due to high energy muons from cosmic ray bursts originated in neutron star mergers**

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In this work a mathematical model for aquatic photosynthesis, modified by some of us to include particulate ionizing radiation, is used to assess the perturbations that muons coming from neutron star mergers could make to this biological process. It is then shown that neutron star mergers not too far from inhabited rocky planets have the potential to considerably deplete their aquatic photosynthesis. Some remarks concerning the affectation on other types of subsurface life are also done, and by extension some considerations on habitability of the Milky Way are presented.

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