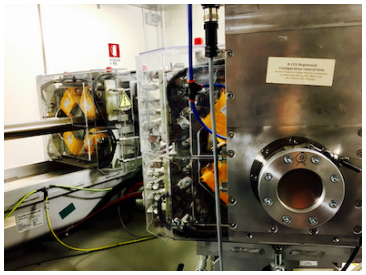

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Development of C. elegans as a model for studying neurodegeneration in space-related conditions

Monday, 9 November 2020 11:50 (10 minutes)

In light of future human exploration of deep space, a fundamental need is to understand how terrestrial organisms may be affected by the peculiar conditions that characterize this extreme environment. Moreover, it will be crucial to dissect how the individual genetic structure may jeopardize or facilitate the adaptation to deep space, with specific regards to normal functioning of the nervous system. In this project, we aim at establishing the nematode C. elegans as a convenient biological dosimeter, allowing to assess the effects of different space-relavant radiation beams on neurological function. We have already studied the response of selected groups of neurons to different doses of gamma-rays. We are currently in the process of assessing the qualitative and quantitative differences in neural disfunction and neurodegeneration induced by similar doses of protons, of the highest possible energy, in collaboration with TIFPA faciluity. This esperiment will be a fundamental step in preparation of experiments with Galactic Cosmic Ray radiation, to be performed at reference facilities such as the GSI.

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