



Contribution ID: 45

Type: **not specified**

Comparative analysis of behavioral responses and physiological parameters of mice under proton exposure and aging.

Thursday 12 June 2025 10:20 (10 minutes)

Within the framework of this work, a comparative analysis of behavioral reactions and physiological parameters of mice on 10 and 30 days after cranial irradiation with protons at a dose of 5 Gy and aging was carried out for the first time. The irradiation of mice was carried out at the phasotron of the JINR LNR medical-technical complex. On the 29th day after irradiation we evaluated the values of the index of spontaneous alternation in the T-maze. The number of alternations, repetitions in the choice of the arm and refusals in the passage of the maze among all groups of animals was counted. Motor asymmetry was also assessed. On days 10 and 30 after irradiation, the differences and dynamics of orienteering and exploratory behavior and observation of the level of emotional reactivity were assessed. On the 30th day after irradiation, cervical dislocation was performed, autopsy was performed with subsequent collection of biological material for further study: spleen, thymus and bone marrow cell suspension. Behavioral reactions of irradiated animals in the "Open Field" facility were found to be disturbed in relation to anxiety and adaptation (grooming and freezing acts). At the same time, no functional changes corresponding to those in aging were detected.

Summary

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Session Classification: Section Talks

Track Classification: Sectional talks: LRB