The first interdisciplinary experiments at the IMP high energy microbeam

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The high energy beam of tens to hundred MeV/n ions possesses mm-to-cm penetration depth in materials and can be easily extracted into air without significant energy loss and beam scattering. Combination of high energy ions and microbeam technology facilitates the microprobe application to many practical studies in large scale samples. The IMP heavy ion microbeam facility has recently integrated with microscopic positioning and targeting irradiation system. In this work, we introduced the first interdisciplinary experiments performed at the IMP microbeam facility using beam of 80MeV/n carbon ions, including cell irradiation for radiobiology study, mouse irradiation for medical study, board irradiation for information security study and semiconductor irradiation for material science.

Primary author: Prof. DU, Guanghua (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China)

Co-authors: Mr YE, Fei (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China); Dr LI, Huiyun (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China); Mr GUO, Jinlong (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China); Ms GUO, Na (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China); Prof. LI, Qiang (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China); Ms WU, Ruqun (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China); Mr LIU, Wenjing (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China); Prof. YUAN, Youjin (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China)

Presenter: Prof. DU, Guanghua (Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China)

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