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Status and prospective of STIP Irradiation Experiments and Ti-, Mo-,W-alloys irradiated in STIP

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STIP irradiation experiments have been conducted in the targets of SINQ (the Swiss Spallation Neutron Source) since 1996, which been the unique irradiation experiment in spallation target irradiation environments in the world. Seven irradiation experiments were performed during 1996 and 2014 and more than 8000 specimens from several tens kinds of materials were irradiated to doses as high as 30 dpa (in Fe). The eighth irradiation experiment (STIP-8) is being conducted in the present target. Due to the neutron and proton spectra change in a large range in the SINQ targets, different irradiation conditions desired for different purposes as such for fusion, fission and spallation materials research could be obtained. The results of STIP irradiation experiments have widely applied to the R&D and safety studies of high power spallation targets in the world, and to materials research of fission and fusion reactors as well.

Although the main focus of the STIP irradiated is on steels, specimens of other materials such as Ti-, Mo- and W-alloys and also pure Ta are of great scientific and technical interests. They were included in different STIP irradiation experiments. In this presentation, the status and prospective of STIP irradiation experiments will be introduced and some inform about specimens of the Ti-, Mo- and W-alloys and pure Ta will be provided.

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