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## The present status and prospective of the SINQ Target Irradiation Program

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### Abstract

In order to support the R&D of high-power spallation targets, the SINQ Target Irradiation Program (STIP) has been conducted since 1998. Up-to-date more than 6000 specimens from about 60 kinds of materials have been irradiated to doses up to 20 dpa. While in the present SINQ target another 1500 specimens are being under irradiation. In parallel to irradiation experiments, post-irradiation examinations (PIE) on the irradiation specimens have been performed to provide materials data for various target R&D projects and to improve the fundamental understanding of the behaviour of materials utilized in spallation target environments. However, even though great efforts have been devoted by many research groups over the last decade, the results obtained from STIP are still not enough to meet the needs for the design of the ESS (European Spallation Source) target. A lot of data are still missing. To establish a materials database for supporting the design of the ESS target and other targets (e.g. the target of Chinese Spallation Neutron Source) as well, not only the PIE on the specimens irradiated or being irradiated in STIP should be extensively continued, but also some special specimens that are more relevant to the structures of the targets should be irradiated. In this presentation, the characteristics of STIP irradiation experiments will be briefly described, and then an overview of the results obtained from STIP so-far will be given. Finally a plan for generating the missing data and preparing the next STIP irradiation will be proposed.