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High Intensity Related Aspects of PSI's Proton Accelerator

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Abstract

With an average beam power of 1.3 MW the PSI proton accelerator facility is presently at the worldwide forefront of high intensity accelerators. The accelerator is based on a chain of two separated sector cyclotrons. This talk discusses operational aspects related to the high intensity beam such as power conversion efficiency, beam losses, activation, instrumentation and interlock systems. Recent performance improvements are covered as well as the newly introduced pulsed beam operation for a separate spallation source generating ultra-cold neutrons.