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ESSnuSB progress on the design of the ESS linac power upgrade and the accumulator ring

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According to the baseline design of the 5 MW accelerator under construction in Lund, Sweden, its duty cycle will be only 4%, which leaves room for increasing the beam power and duty cycle to 10 MW and 8%, respectively. The linac power upgrade will be realized by increasing the linac pulse frequency from 14 to 28 Hz. The ESS linac pulse is 3 ms long which is too long for the cosmic ray-related neutrino background in the far detector and a 400 m circumference accumulator ring will be used to compress the beam pulse to 1.3 μ s. A review will be given of the current results of the design and simulation work on the linac power upgrade and the pulse compressing accumulator ring

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