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Operating the superconducting electron accelerator S-DALINAC - built, improved and operated mainly by students

Since the 1980s, the superconducting electron accelerator S-DALINAC was built and continuously improved at the Technical University of Darmstadt mainly by students in the framework of their master and Ph.D. thesis. With only limited technical assistance, this created operational challenges to face ever since: many subsystems have a poor design, some operate below specifications while others require high expertise of the user. Moreover, as the accelerator runs in an academic environment, technical details are mostly not documented while the students implementing new systems leave the institute once they got their degree. Nevertheless, the machine delivers roughly 2500 h beam on target yearly. We will report on the daily operational issues, the methods developed to keep the knowledge and training the students, operating the machine.

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