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Status of the cryomodule tests as a part of Polish in-kind contribution to the European Spallation Source (ESS) realized by IFJ PAN

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The European Spallation Source (ESS), as one of the complex accelerators require installation and commissioning of many systems and components. One of them is the accelerator line which is composed with the cryomodules uses to accelerate of the particles. Taking into account that ESS is one of the most technological advanced accelerators in Europe we can expect also that accelerator line is very complex and advanced part of the machine. Among others things three types of the cryomodules spokes, medium and high beta are used to assembly accelerator line. In 2017 first group of engineers from the Henryk Niewodniczanski Institute of Nuclear Physics Polish Academy of Science (IFJ PAN) arrived to Lund in order to start execution of IFJ PAN contribution to this project. In total 31 cryomodules have to be tested and prepared for assembly in the tunnel as a part of the accelerator line. In this paper the current status of the tests as well as early stage of the optimization process regarding test program for cryomodules tests is showed. The main focus is done on the procedures and quality aspects, required skills and challenges occurring during the tests work; inter alia: incoming inspection, tests before installation in the bunker, preparation of the cryomodules for the test, test in the bunker, outgoing inspection. A very expensive RF cryomodules and systems required the special skills and the right approach to quality which is provided by engineers and technicians from IFJ PAN.

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Footnotes

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