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The MEDICIS Facility –overview, 2018 operation report and plans for CERN long shutdown 2

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The ISOLDE facility uses about 50-60% of all the CERN protons on its two targets to produce radioactive isotopes for physics research. Most of these protons go through the ISOLDE targets into the dumps, without any interaction, only having their energy slightly reduced. To "recycle" these protons, the MEDICIS facility (MEDical Isotopes Collected from ISOLDE) was created to fulfill the demand for research of radioactive isotopes in medical and life science applications.
Using an automated rail conveyor system, a target is positioned between the ISOLDE HRS target and the beam dumps. The MEDICIS target is bombarded indirectly, while cold, and in a transparent way to the ISOLDE physics program. After, it is retrieved and installed in the MEDICIS frontend and mass separator to extract the medical isotopes using the ISOL method (Isotope Separation OnLine) but in an "OffLine"mode, since the production and isotope extraction/collection happen in different moments in time. The collected isotopes can then be chemically separated and delivered to hospitals or institutes for medical research studies.
Since May 2018, MEDICIS has been for the first time operating with radioactive beam (after a short radioactive commissioning in December 2017). During this year, more than 20 irradiations have been performed in more than 10 targets for experiments previously approved by the MEDICIS Collaboration board. MEDICIS has been progressing at a very steady step reaching its milestones and isotope release efficiency goals successfully. Meanwhile the infrastructure of MEDICIS is still evolving with the implementation of radiochemistry fume hood and safety procedures, the development of GMPs –good manufacturing practices –and the commissioning of the MEDICIS Laser Ion Source Setup At CERN –MELISSA.
In this talk a full overview of the MEDICIS facility will be given together with the operation report of 2018. The plan to operate MEDICIS during CERN long shutdown 2, contrarily to the great majority of CERN facilities, will also be presented.

Primary author: Dr RAMOS, Joao Pedro (KU Leven and CERN)

Presenter: Dr RAMOS, Joao Pedro (KU Leven and CERN)

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