

## **Tokamak GOLEM activities (2019 inventory) in the "Radiation processes generated by runaway electrons in tokamaks" topic.**

### **RE campaigns:**

Jan: Plastic scintillators in RE detection

Feb: Energy analysis of HXR with shielding of scintillation probes in lead shields I

Feb: Experimental session: effect of working gas / increase in plasma density on the dynamics of Res

May: Energy analysis of HXR with shielding of scintillation probes in lead shields II

Aug-Dec. Tokamak GOLEM control system reconstruction. (no science)

### **Outputs:**

\* Jaroslav Čeřovský: Presentation "Investigation of runaway electrons at Golem" at the 7th Meeting on Runaway Electron Modeling

\* Vojtech Svoboda et al. "Operational Domain in Hydrogen Plasmas on the GOLEM Tokamak". In: Journal of Fusion Energy (2019). issn: 1572-9591. doi: <https://doi.org/10.1007/s10894-019-00215-7>.

We compare behaviour of HXR emission, which is related to generation of runaway electrons. We achieved interesting results showing higher HXR activity with the "clean" vessel. (výňatek ze summary + obr na konci)

\* V. Linhart et al. "First Measurement of X-rays Generated by Runaway Electrons in Tokamaks Using a TimePix3 Device with 1 mm thick Silicon Sensor". In: 2018 IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC). 2018, pp. 1-9. doi: 10.1109/NSSMIC.2018.8824534.

\* Novotný: 21 st International Workshop on Radiation Imaging Detectors 7-12 July 2019 Kolympari, Chania, Crete, Greece: Runaway Electron Diagnostics Using Silicon Strip Detector  
To znáš určitě důvěrně

\* V. Linhart et al. "First Measurement of X-rays Generated by Runaway Electrons in Tokamaks Using a TimePix3 Device with 1 mm thick Silicon Sensor". In: 2018 IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC). 2018, pp. 1-9. doi: 10.1109/NSSMIC.2018.8824534.

\* P. Dhyani et al. "Study of Runaway Electrons in GOLEM Tokamak". In: Journal of Instrumentation 14.09 (2019), pp. C09029-C09029. doi: 10.1088/1748-0221/14/09/c09029. url: <https://doi.org/10.1088/1748-0221/14/09/c09029>.

\* Svoboda V. Istokskaja V. Mlynář J. Čeřovský J. Ficker O. Linhart V. Dhyani P. "Design and development of probe for the measurements of runaway electrons inside the golem tokamak plasma edge". In: vol. 2019-July. Europhysics conference abstracts. 2019, P1.1016. isbn: 979-10-96389-11-7. url: <http://ocs.ciemat.es/EPS2019PAP/pdf/P1.1016.pdf>.

\* Mácha P. Istokskaja V. Kropáčková D. Papoušek F. Adánek J. Čeřovský J. Ficker O. Grover O. Jiráková K. Stöckel J. Svoboda V. Kulkov S. "Tokamak GOLEM for fusion education - chapter 10". In: vol. 2019-July. Europhysics conference abstracts. 2019, P1.1068. isbn: 979-10-96389-11-7. url: <http://ocs.ciemat.es/EPS2019PAP/pdf/P1.1068.pdf>.

\* Praktika fyziky plazmatu Andrea Kolínská:  
[http://golem.fjfi.cvut.cz/wiki/TrainingCourses/FTTF/2018-2019/AndrKol/zaverecny\\_report/Zaverecny\\_report](http://golem.fjfi.cvut.cz/wiki/TrainingCourses/FTTF/2018-2019/AndrKol/zaverecny_report/Zaverecny_report)

\* + Dvě prezentace pro CAAS