Contribution ID: **10** Type: **not specified**

# PET center for low patient traffic and the RF system for its cyclotron

*Thursday 24 November 2016 17:10 (20 minutes)*

Two topics will be discussed in the presentation. Firstly, a new high power efficient RF generator with outstanding availability has been developed, tested and is commercially available. The system meets the customer demands on compactness, usability, high reliability. Special modular architecture allowed to design scalable solution for various frequencies, output powers and duty cycles (up to CW). Control system of the generator has features specially designed for PET cyclotrons. The architecture and tests of 72 MHz 10 kW CW generator prototype are presented.
A compact, modular PET center which utilizes a cyclotron with the developed RF generator is proposed. The center is suited for regions with small population, where one or two PET scanners are needed. The solution allows to overcome the problem of patients, or vice versa radiopharmaceuticals, logistics in such regions. The center consists of one or two PET-CT scanners with the cyclotron and radiopharma production able to produce 55 GBk, which makes the cyclotron much more compact and cheap than usual PET cyclotrons. Also such compact cyclotron might be of interest for oncology clinics which do not have own radiopharma production and suffer from its logistics issues

**Presenter:** SHARKOV, Gregory (NIIFTA)

**Session Classification:** Radioisotope production