Contribution ID: **11** Type: **Contributed Talk**

Borexino Supernova Alarm System 2.0

Saturday 15 June 2019 13:30 (15 minutes)

The Borexino experiment has been a member of the SNEWS group since 2009. Originally the Supernova Alarm System of the detector consisted of two modules (so-called supernova monitors) which allowed to register neutrino and antineutrino event bursts from the supernova explosion. Both monitors operated in the counting mode with the alarm rate of less than one in 10 days. No information about significance of a burst was provided by the old Borexino Supernova Alarm System. The updated version of the system has only one module which unites the functionality of previous monitors. Also the new system can sent out different types of alerts including the frequent signals to search for low-threshold coincidences. The last feature is a step towards the multimessenger astronomical studies such as the joint search for gravitational wave and low energy neutrino signals from core-collapse supernovae (GWNU).
Besides the update of the Borexino Supernova Alarm System a few software tools for prompt data checking in case of the high significant supernova alert and for offline analyses have been developed. The overview of these tools will be presented as well.
The research was supported by the grant of the Russian Foundation for Basic Research (project № 16-29-13014).

Author: Dr GROMOV, Maxim (SINP MSU, JINR)

Presenter: Dr GROMOV, Maxim (SINP MSU, JINR)

Session Classification: Contributed talks II