Contribution ID: **30**   Type: **Poster**

Improvements for IceCube's Supernova Search System

The IceCube Neutrino Observatory was designed to detect neutrinos at energies greater than 100 GeV.
Due to subfreezing temperatures, the photomultipliers' dark noise rates are particularly low. This enables IceCube to search
for neutrinos from galactic supernovae by measuring an increase in the overall hit number (scalers) in the detector coming from the Cerenkov light of interactions of MeV neutrinos in the ice .
A new feature to the standard DAQ, called HitSpooling, is running in IceCube since 2013.
By buffering the un-triggered hit information of the photomultipliers we have access to the full raw data stream of the detector in case of a supernova.
In combination with the standard scaler data, the HitSpooling feature leads to a better understanding of background processes coming from
atmospheric muons and instrumental noise.
Furthermore, the status of the galactic supernova search as well as systematic and detector stability studies are presented.

Primary author: Mr HEEREMAN, David (IIHE ULB-VUB)

Presenter: Mr HEEREMAN, David (IIHE ULB-VUB)

Track Classification: Supernova Neutrinos