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LaBr Online Filter Monitoring System for IMS Stations

As a consequence of the Fukushima accident it became obvious that the IMS filter could potentially cause radiological concern for the station operators due to the high air flow rate which can lead to accumulation of sizeable activities on the filters. Also, the data from the filter analysis is not available until more than 52 hours from the collection start (the time of the first preliminary spectrum is sent to IDC). Therefore, PTS started investigation into an early warning online filter monitoring system with low resolution detectors. LaBr was selected as one of the best solution. Its resolution allows to distinguish radioactive iodine isotopes from the radon progenies and has orders of magnitude better sensitivity than conventional in-situ dose monitoring devices. This system gives possibility to warn station operators well in advance of any radiological hazards a filter can represent, and provides early notification to the PTS to timely implement necessary actions in response to such an event. The poster presents the system design and results of the measurements at the test station at VIC.

Primary author: KHRUSTALEV, Kirill (Instrumental Software Technologies Inc.)

Presenter: KHRUSTALEV, Kirill (Instrumental Software Technologies Inc.)

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