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Searches for ecological gas mixtures for gaseous detectors of ionizing radiation

Gaseous detectors of ionizing radiation are widely used in different applications, and the largest area of their application is the High Energy Physics. Restive Plate Chambers, Cathode Strip Chambers and GEM detectors operate with gas mixtures which contain greenhouse gases, such as tetrafluoroethane (C2H2F4), SF6 and CF4. Currently, a lot of development is ongoing to reduce exhaust of those gases –gas re-circulation and recuperation, reduction of their contents in the detector gas mixtures and searches for alternatives. The talk presents an overview of the modern gaseous detectors, their usual gas compositions, and the developing ways to reduce exhaust of the non-ecological gas components.

Section

8th CERN School "Introduction to high-energy physics, accelerator technology and nuclear medicine"

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