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The drift chamber with a new type of straws for operation in vacuum

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A 2150x2150 mm2 registration area drift chamber capable of working in vacuum is presented. Thin-wall tubes (straws) of a new type are used in the chamber. A large share of these 9.80 mm diameter drift tubes are made at Dubna from the metalized 36 μm Mylar film welded along the generatrix using the ultrasonic welding machine created at JINR. The main features of the chamber and some characteristics of the drift tubes are described. Four such chambers with the X, Y, U, V coordinates each, containing 7168 straws in total, are designed and produced at JINR and CERN. They are installed in the vacuum volume of the NA62 set-up to study the ultra-rare decay and to search for and study rare meson decays. In autumn 2014 the chambers were the first used for the data-taking in the experimental run of the NA62 at CERN's SPS.

Primary author: Dr POTREBENIKOV, Yury (JINR, Dubna)

Co-authors: Mr KOLESNIKOV, Alexander (JINR); Mr SOTNIKOV, Alexander (JINR); Dr MADIGOZHIN, Dmitry (JINR); Mr KISLOV, Evgeny (JINR); Mr PEREZ GOMEZ, Francisco (CERN); Dr DANIELSSON, Hans (CERN); Mrs POLENKEVICH, Irina (JINR); Mr BENDOTTI, Jerome (CERN); Mr MORANT, Joran (CERN); Dr DEGRANGE, Jordan (CERN); Dr GLONTI, Levan (JINR, Dubna); Mr DIXON, Neil (CERN); Dr AZORSKIY, Nikolay (JINR); Dr LICHARD, Peter (CERN); Mr KAKURIN, Sergei (JINR); Dr MOVCHAN, Sergei (JINR); Dr SHKAROVSKIY, Sergey (JINR); Dr ENIK, Temur (JINR); Mr SAMSONOV, Viacheslav (JINR); Dr PALLADINO, Vito (CERN); Mr ELSHA, Vladimir (JINR); Prof. KEKELIDZE, Vladimir (JINR); Mr GUSAKOV, Yury (JINR)

Presenter: Dr POTREBENIKOV, Yury (JINR, Dubna)

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