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NA62 spectrometer: a low mass straw tracker

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The NA62 experiment at CERN, aiming at a precision measurement of the ultra-rare decay K+ -> pi+ nu nubar, relies on kinematical rejection up to 10⁵ (10 10ⁱ to is needed in total). One of the limiting factors to achieve this goal is the multiple scattering in the magnetic spectrometer for kaon decay products; therefore an almost massless ($^{1.5\%}$ X0) straw tracker has been designed to operate in vacuum, to be able to install it inside the decay volume. A vacuum tight prototype was built and tested in 2010: efficiency ($^{99\%}$), rate capability and single straw resolution (200 um) were verified. The construction of the first chamber started in 2011.

Author:SERGI, Antonino (CERN)Presenter:SERGI, Antonino (CERN)Session Classification:Gaseous Detectors

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