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Multisectional Wire Chamber for Investigation
Impulse X-ray and VUV Plasma Radiation

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New types of multisectional wire chambers sensitive within the region 1-4000 \AA are described. These chambers joined to the coded aperture imaging allows to investigate spectrum and space characteristics of ultraweak impulse ($< 1 \mu\text{s}$) X-ray and VUV radiation of plasma with the energy resolution not less than root square from the total number of photons simultaneously absorbed in detector.

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A GASSCINTILLATION PROPORTIONAL COUNTER FOR K X-RAY
EXPERIMENTS AT LEAR

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For the measurement of $\bar{p}p$ and $\bar{p}d$ K X-rays at LEAR we designed and constructed two gasscintillation proportional counters (GSPC) for the energy range of 5 to 16 keV. The detectors are operated in a "prescintillation" mode to achieve a coincidence relation with the beam, background rejection and maximum drift velocities within the detector.

The gasscintillator (Xe, 1 atm) is separated by a 4 mm quartz window from a UV sensitive multiwire chamber, which operates with a TMAE-doped argon/methane mixture at 1 atm. During recent testruns at LEAR with He as target gas, we obtained a peak to background ratio which is 6 times better than that of the Si(Li) detector used so far, while the efficiency at 11 keV is a 4 times better. These facts make the GSPC a favourable instrument for the (low intensity) X-ray experiments, in spite of the little loss in energy resolution compared with a Si(Li) detector.

In the case of $\bar{p}d$, where the K X-ray yield is an order of magnitude smaller than in the case of $\bar{p}p$, the GSPC is the only instrument that holds out a prospect of a positive result within a practicable amount of beam time.