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# THE PRODUCTION OF STRANGE BARYONS AND ANTIBARYONS WITH RELATIVISTIC LIGHT ION COLLISIONS AT THE CERN SPS

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## SUMMARY

We have proposed to measure the inclusive production cross sections of strange baryons and antibaryons with light ion collisions with nuclear targets (A = 9-238) over the energy range of 13 GeVA to 200 GeVA at the CERN SPS.

We expect to detect per day the following approximate event numbers for $^{16}O + U \rightarrow B + X$ at 40 GeVA [$K^{o}_{s}(2200)$ $\bar{p}(4.2 \times 10^{5})$ $\Lambda(4.3 \times 10^{5})$ $\bar{\Lambda}(9000)$ $\Sigma^{+}(1000)$ $\Sigma^{-}(8.6 \times 10^{4})$ $\Xi^{-}(540)$ $\Omega^{-}(26)$]. These rates are the rates we would expect if there is no enhancement (no quark-gluon plasma). It is clear that the rates are such that the predicted enhancement factor would be observed even if the quark-gluon plasma is created only for impact parameters of less than 1 fm.

A high-field superconducting magnet would be used to disperse the high multiplicity of mesons from the region of our measurement. A micro TPC would be used to recognize primary decay kinks and secondary decay $V^{o}$'s.





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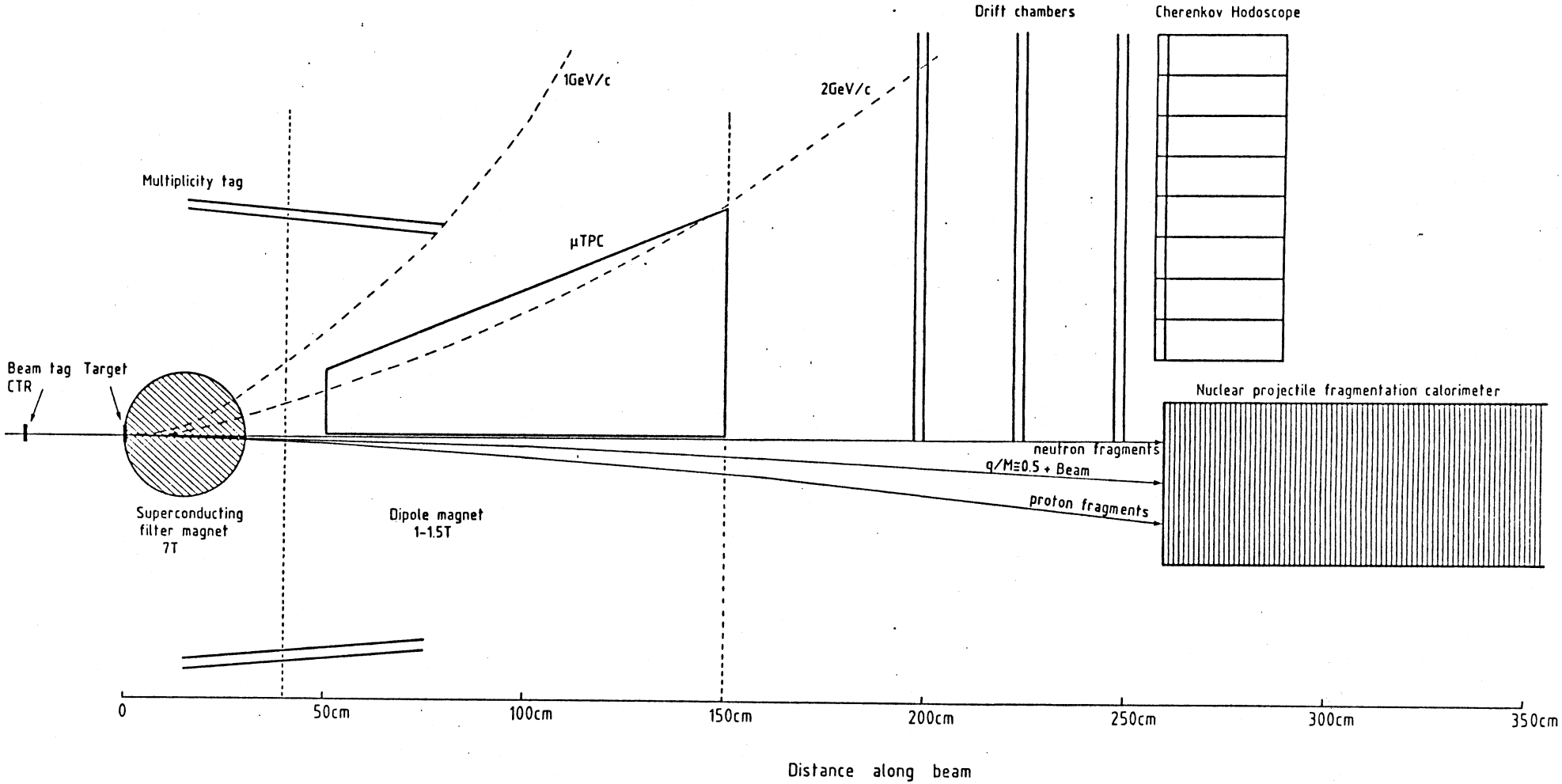


Fig. 1

Layout of experiment for 13 GeVA $^{16}$O ions