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STUDY OF THE PRODUCTION MECHANISMS AND DECAY PROPERTIES OF CHARMED PARTICLES OBSERVED IN NUCLEAR EMULSIONS COUPLED TO THE NA14 SPECTROMETER

Bologna, CERN, Florence, Genoa, LPE-Moscow
Collaboration

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SUMMARY

The aims of this test experiment are :

a) to check the expected improvement in scanning speed and efficiency, due to the use of the microstrip vertex detector of the NA14 set up and to the help of automated microscopes ;

b) to evaluate the enrichment factor in the charmed event content of the sample to be searched, due to the particle identification power and the vertex detector of NA14 ;

c) to collect some 100 pairs of charmed particles, produced and decaying in emulsion, which would allow a comparison with the results from the WA58 experiment, in particular about the possible energy dependence of the production mechanism of associated $\Lambda_c^+ \overline{D}$.

The incident beam will consist of tagged photons between 70 and 150-200 GeV.

Modified* set up of experiment NA14/2

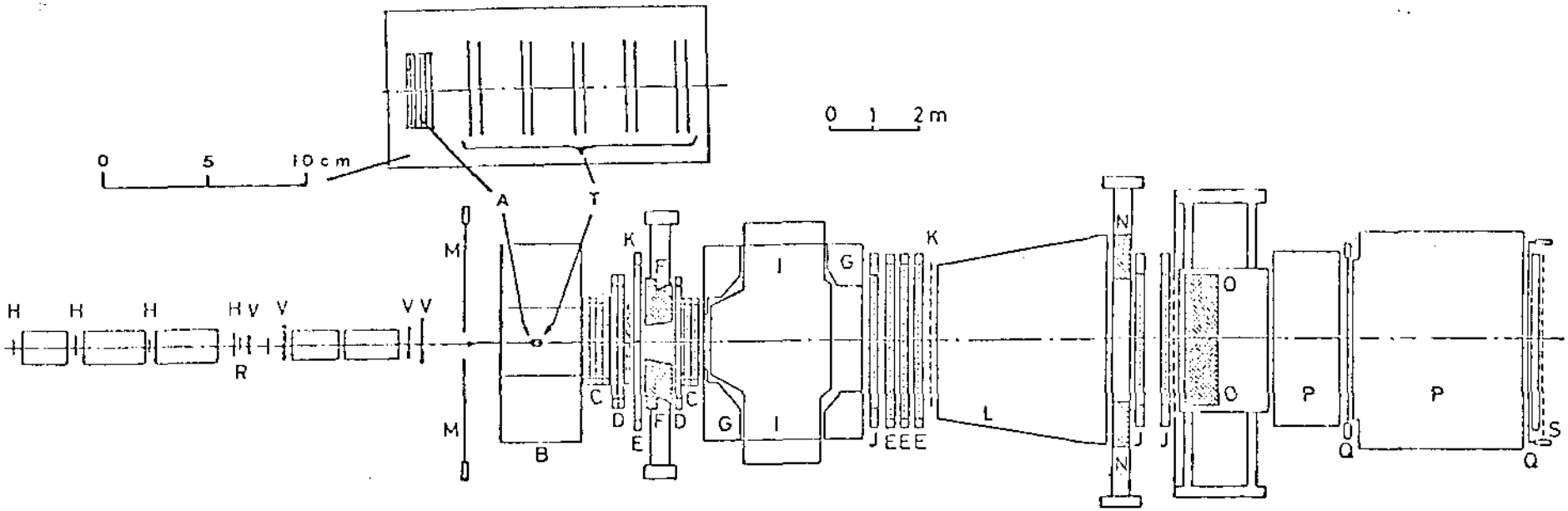

Figure caption:

H,V	tagging hodoscopes	F	"crown" lead glass calorimeter		
M	muon veto	G	Goliath Magnet		
A	Si active target*	I,L	Čerenkov Counters	O	Olga-Penelope Calorimeter
B	APG vertex magnet	K	trigger hodoscopes	P	iron filter
C,D,E,J	MWPC's	N	Imperial College Calorimeter	Q,S	μ hodoscopes
T	Si microstrip detector				

*Si active target replaced by emulsion target (stack)