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STUDY OF JET STRUCTURE IN HIGH MASS DIFFRACTION AT THE SPS COLLIDER

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Participants
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The aim of the experiment is to study the class of events which have a quasi-elastic recoil proton or antiproton (with $x_F > 0.9$) and also large transverse energy (hadronic and/or electromagnetic). The trigger is a minimum transverse energy in the UA2 calorimeter system and a diffractive recoil proton signature in a system of "Mini-Drift" wire chambers installed symmetrically in Roman-pots on both sides of LSS4.

In single diffractive events of the type:

$$\bar{p}p \rightarrow \bar{p} + X \quad + \quad \text{c.c.}$$

the system X is believed to result from a Pomeron-proton collision $Pp \rightarrow X$. We will study the energy flow in the UA2 detector and search for jet structure in high mass diffraction at $\sqrt{s}$ = 630 GeV in order to elucidate the nature of the Pomeron and its possible parton structure. Observation of electrons with high transverse momentum in coincidence with leading protons will signal the production of heavy flavor in high mass diffraction.

In order to efficiently select high-mass diffractive events at the highest luminosities to be available, the momentum of the proton will be calculated in real time for use in a second-level trigger.

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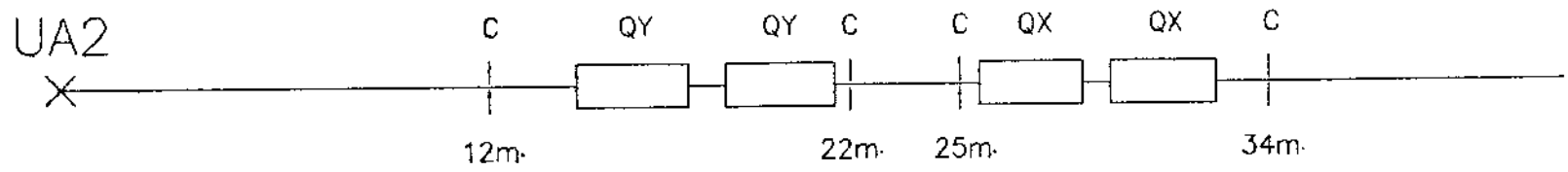
References
SPSC/84-82/P208, 85-2/P208/Add. 1



C = Chambers

QY = Vertical Focusing Quads

QX = Horizontal Focusing Quads