Referee's Comments
EmC 63/3 A
20.3.63.

Proposal of an Emulsion Experiment requiring a mass separated $K^{\pm}$ beam

by W.M. Gibson, W.A. Venus

The information available on pion coherent interactions at 14 - 18 GeV/c in emulsions[1] indicate a mean free path for these events of 50 - 100 m in emulsions. Unless the Kaon coherent interactions have a considerably higher cross-section, 200 m of track as requested will be likely to furnish very few events.

Furthermore, results on pion interactions in propane bubble chamber[2] show that the cross-section for coherent events is practically zero at threshold (6.1 GeV/c), reaching 2.6 ± 0.5 mb at 18 GeV/c. Once again unless the kaon coherent interactions behave very differently, the low energy (3 - 6 GeV/c) of the K-beam in the proposal EmC 63/3 renders likely an extreme scarcity of events.

On the other hand it has been demonstrated that the propane bubble chamber is a good quick analyser of this type of event. Film in a propane chamber with K-mesons of 3 - 6 GeV/c would be useful for many other investigations, and an investigation of the K-produced tridents would then be a by product of such an exposure.

---

(1) Baldassarre et al. - Aix-en-Provence International Conference page 427 and Nuovo Cimento 21, 459 (1961)

(2) Bellini et al. (preprint) - submitted to Nuovo Cimento.