

The best way to search for vector mesons is through production experiments of the type $p + p \rightarrow V^0 + X$. The reasons are:
 \downarrow
 e^+e^-

- (a) The V^0 are produced via strong interactions, thus a high production cross section.
- (b) One can use a high intensity, high duty cycle extracted beam.
- (c) An e^+e^- enhancement limits the quantum number to l^- , thus enabling us to avoid measurements of angular distribution of decay products.

Contrary to popular belief, the e^+e^- storage ring is not the best place to look for vector mesons. In the e^+e^- storage ring, the energy is well-defined. A systematic search for heavier mesons requires a continuous variation and monitoring of the energy of the two colliding beams—a difficult task requiring almost infinite machine time. Storage ring is best suited to perform detailed studies of vector meson parameters once they have been found.

Fig. 3. Page 4 of proposal 598 submitted to Brookhaven National Laboratory early in 1972 and approved in May of the same year, giving some of the reasons for performing this experiment in a slow extracted proton beam.