

THE MESON WORKSHOP

A workshop was held on September 16 to discuss the upgrading of the Meson Area during the six month "Mesopause" that is scheduled for 1978. The basic motivation for the shutdown is to save operating funds, but there is also an opportunity to make improvements that will make full operation possible at 400 GeV (the Meson Area was originally designed for 200 GeV) and to make further, more extensive improvements that will make 1-TeV operation possible.

Two basic upgrading schemes are being considered, a two-way or a three-way split. The two-way split would make use of a wire septum installed in the F3 manhole to provide a 4-in. separation in the Meson Hall, 600 feet downstream. This system is somewhat similar to the Neutrino septum, which uses two wire septa and a 300-ft drift space. One beam would be targeted for the M1 beam line (as discussed below) and the other for M2 through M6. An important advantage of the two-way split is that it can be upgraded to operate at 1 TeV.

The three-way split would be accomplished by adding a wire septum in F2 to the one in F3 contemplated for the two-way split. In this scheme, one beam would be targeted for M1, a second straight-through beam of intensity less than  $10^{11}$  for M2, (M3 not used except for attenuation targeting), and the third beam for M5 and M6. This scheme would provide approximately 4 in. for targets on either side of the straight-through beam. It would provide more secondary-beam acceptance and would make it possible to use standard magnets in the front end of the secondary beams, thus

alleviating a difficult spares problem and aiding reliability. The three-way split can probably be done at 400 GeV, but would be exceedingly difficult, if not impossible, to do at 1 TeV.

One of the important new features to be gained with either splitting system is a high-intensity  $10^9$  to  $10^{10}$  pion beam in M1. Other features being considered are an increase in the energy of the M6 beam, polarized or enriched K and  $\bar{p}$  beams and consolidation of the hadron program in the Meson Area by moving the 30-in. bubble chamber and hybrid facility there.

A number of more-detailed proposals were presented later in the workshop. Timothy Toohig will coordinate the future work. An explicit upgrading proposal is to be ready for public discussion in December in order that individual groups can utilize those ideas in physics proposals to be considered at the February meeting of the Program Advisory Committee. At that meeting, the Committee will make recommendations on which upgrading proposals should be carried out.