

Events from the SLAC-LBL magnetic detector⁴ were selected using the following criteria:

- a. two and only two charged prongs in the detector;
- b. prongs of opposite electric charge;
- c. each prong has a momentum greater than 0.65 GeV/c;
- d. one prong is identified as an electron and the other as a muon by the detector;
- e. no photons detected;
- f. the coplanarity angle is greater than 20°.

In Refs. 1 and 3, 86 $e\mu$ events were used. In these 86 events we calculated a background of 22 ± 5 events or 30 ± 6 events depending upon the method of background calculation. Since then we have continued to acquire $e\mu$ events and now have over 100. The new events in the threshold region $3.8 \leq E_{\text{cm}} < 4.8$ GeV will be discussed in the next, and later, sections of this talk.

The observed production cross section based on the 86 events is shown in Fig. 1. The curves are theoretical U pair production cross sections corrected for geometric acceptance, momentum and angular cuts, triggering and tracking efficiency, so as to yield the observed production cross sections. The solid curves are for the U a heavy lepton of mass $M_U = 1.8$ GeV/c²; this mass is a good fit to the data. The mass of the associated neutrino is $M_{\nu_U} = 0.0$. The coupling between the U and its neutrino is V-A or V+A. The lepton production cross section is

$$\sigma_{ee \rightarrow UU} = \frac{43.4\beta(3 - \beta^2)}{s} \text{ nb} \quad , \quad U \equiv \text{heavy lepton } \ell \quad (10)$$

Here $s = E_{\text{cm}}^2$ and $\beta = v_U/c$; v_U being velocity of the U. The dashed curve in Fig. 1 is for the U a meson of mass 1.9 GeV/c² with the 2-body decay modes of Eq. (7). The production cross section is not known a priori, I