



**Figure 38.11:** Total and elastic cross sections for  $\pi^\pm p$  and  $\pi^\pm d$  (total only) collisions as a function of laboratory beam momentum and total center-of-mass energy. Corresponding computer-readable data files may be found at <http://pdg.lbl.gov/xsect/contents.html> (Courtesy of the COMPAS Group, IHEP, Protvino, Russia, August 1999.)