Subject: Re: Problem with Xi(1820) in EvtGen Posted by Jennifer Pütz on Mon, 02 Nov 2015 08:52:11 GMT View Forum Message <> Reply to Message

Hi Stefano,

I tried out what happens, if I use the mass of 5.5 without the suggested patch. Going to higher pharpsystem masses seems to fix the problem (see plot below).

This is similiar to the observations of the EvtGen guys.

If I understood them correct, the code of src/EvtGenBase/EvtMassAmp.cpp::amplitude() checks first, if the pbarpSystem mass is bigger than the sum of the mass of the daughters. In my case the masses of Xi(1820)- and Xi+ are 1.823 + 1.322 = 3.145 which is much higher than the mass of the pbarpSystem. This seems to cause - together with L!=0 - that the mass distribution is flat.

Best,

Jenny

File Attachments

1) XiMinus1820_Spin_3half_higher_pbarpSys_mass.png, downloaded 993 times

 $m \Xi (1820)^{-1}$ htemp 1000 10000 Entries 1.825 Mean 0.02828 **RMS** 800 600 400 200 1.65 1.85 m/GeV/c2