statistical Significance for nnL peak

1. The region around the peak is selected and the selected region is chopped by using the graphical cut. The chopped portion is printed in a separate canvas and no of events in the region is recorded by integrating the whole chopped region. This includes the background events.

Lets denote these events (signal + BG) = N1

2. For the 1^{st} peak, the region above the background and for the second peak, region above the QF line is selected by graphical cut method and chopped. The chopped region is again printed in a different canvas and the no of events are recorded by using the integral method.
Note: This events contains signal only
Lets denote these events(signal only) = N2

The statistical significance = total signal /sqrt(signal +BG) = N2/sqrt(N1)

For the first peak

Mean = -0.19 MeV and sigma = 0.81 MeV

1. band width = 1sigma = -1.0 to + 0.62 MeV

N1 = 12.9527 and N2 = 6.3

Statistical Significance = 6.3/sqrt(12.9527) ~ 1.75

2. band width = 2sigma = -1.81 to + 1.43 MeV

N1 = 22.87 and N2 = 9.47954

Statistical Significance = 9.47954/sqrt(22.87) ~ 1.98

3. band width = 3sigma = -2.62 to + 2.24 MeV

N1 = 30.7697 and N2 = 10.8973

Statistical Significance = 10.8973/sqrt(30.7697) ~ 1.96

For the second peak

Mean = 8.05 MeV and sigma = 1.0 MeV

1. band width = 1sigma = 7.05 to 9.05 MeV
N1 = 41.698 and N2 = 21.8998
Statistical Significance = 21.8998/sqrt(41.698) ~ 3.39

2. band width = 2sigma = 6.05 to 10.05 MeV
N1 = 41.9863 and N2 = 23.0158
Statistical Significance = 23.0158/sqrt(41.9863) ~ 3.55

3. band width = 3sigma = 5.05 to 11.05 MeV
N1 = 69.7759 and N2 = 34.0366
Statistical Significance = 34.0366/sqrt(69.7759) ~ 4.07