EXP1904: Reference reaction - Developing #470

Analyzing # 436 (Открыта): Reference reaction: Data analysis

Analyzing # 459 (Открыта): Beam of 10Be

Target position estimation

07/23/2020 09:07 AM - Ivan Muzalevsky

Status:	Открыта		**Start date:**	07/23/2020
Priority:	Нормальный		**Due date:**	
Assignee:	Ivan Muzalevsky		**% Done:**	50%
Category:			**Estimated time:**	0.00 hour
Target version:				
Description				
Based on the beam profile distributions at the target plane, correspoded to different triggers, obtain the target shifts in the XY plane.				

History

#1 - 07/23/2020 09:38 AM - Ivan Muzalevsky

- File targetPosition.c added

- % Done changed from 0 to 50

From the data with equalized silicon triggers, the beam profile for different silicon triggers (2-5) was obtained (see the following figure). One should obtain the target frame borders. For this purpose, the following distributions were fit by the xygaus fucntion in the region, corresponded to the nearby target frame border. The mensioned fits are shown and colored in red.

triggerPositions.png

The obtained X and Y means (in mm) of the fit functions turned out:
-10.34 0.19
-0.22 -11.08
11.24 -0.97
0.96 11.13

These values were used as input coordinates for the circle fit. The fit fucntion was a circle equation with 3 parameters: XY center corrdinates and radius. The rezlization of the fit is presented in the following fig:

targetFit.png

Based on the fit result, it was found that according to the used method, **the target Xshift was 0.47 mm and Yshift 0.**
Also as the fit result, the radius turned out 11 mm, which is close to the real value (12.5 mm) which makes the results more plausible

Files

targetPosition.c		3.61 KB	07/23/2020	Ivan Muzalevsky