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Subject: Efficiency reduction of antiprotons above 20 degrees  
Posted by [Karin Schöning](#) on Tue, 25 Nov 2014 15:35:06 GMT

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Dear Pandaroot experts,

there is an efficiency loss of antiprotons above a lab polar angle of 20 degrees in all hyperon channels I had a look at so far. To avoid any other kind of systematics I (after advice from Stefano) generated a sample of pbar p -> Lambdabar Lambda at 1.64 GeV/c with an isotropic angular distribution of the Lambda/Lambdabar. The problem remains, as you can see in the attached figures.

th\_p\_pbar.pdf shows theta (lab polar angle) vs the lab momentum of the antiproton, whereas th\_p\_proton.pdf is the same but for the proton.

Furthermore, there is an non-negligible difference in the pi- and pi+ yields: 74% for pi- while 65% for pi+.

What could be the reason for this? Interaction of the antiproton with the detector material or some artifact of the tracking?

Kindest regards,

/Karin

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#### File Attachments

- 1) [th\\_p\\_pbar.pdf](#), downloaded 635 times
- 2) [th\\_p\\_proton.pdf](#), downloaded 562 times

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