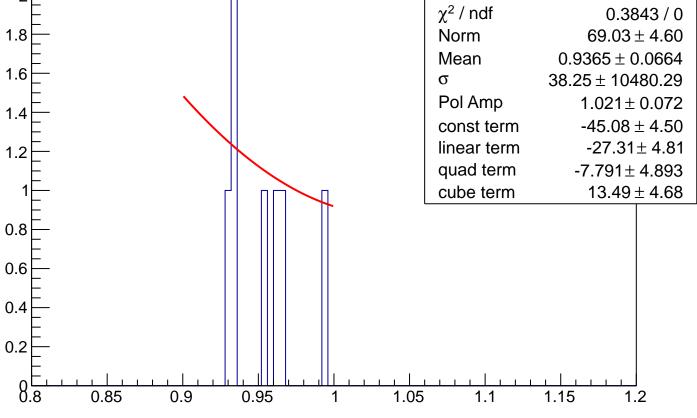


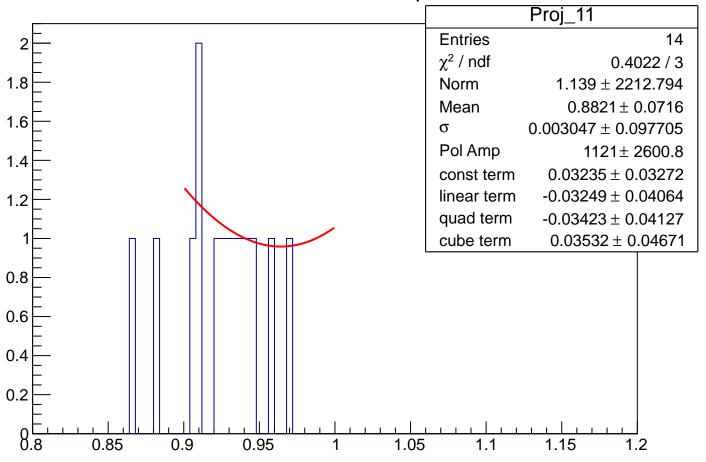
PhiThetaMassPip Proj\_010 **Entries** 7 2  $\chi^2$  / ndf 0.3843 / 0 Norm  $69.03 \pm 4.60$ Mean  $0.9365 \pm 0.0664$ σ  $38.25 \pm 10480.29$ Pol Amp  $1.021 \pm 0.072$ const term  $-45.08 \pm 4.50$ linear term  $-27.31 \pm 4.81$ quad term  $-7.791 \pm 4.893$ cube term  $13.49 \pm 4.68$ 

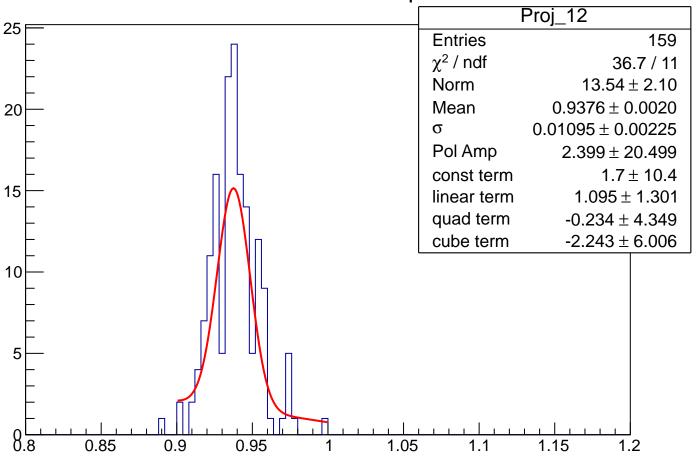


PhiThetaMassPip Proj\_011 **Entries** 3 14  $\chi^2$  / ndf 0.1973 / 0Norm  $9478 \pm 6.7$ 12  $0.9163 \pm 0.0820$ Mean σ  $32.03 \pm 1.41$ Pol Amp  $85.51 \pm 0.06$ 10 const term  $-77.36 \pm 0.08$  $-47.08 \pm 0.08$ linear term 8 quad term  $-12.6 \pm 0.1$ cube term  $26.38 \pm 0.09$ 6 2 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_012 **Entries** 3000  $\chi^2$  / ndf 4.412e-14 / 0 Norm  $3136 \pm 52644.7$ Mean  $0.9813 \pm 0.0933$ 2500 σ  $0.009805 \pm 0.130078$ Pol Amp  $375.8 \pm 1457.0$  $0.9478 \pm 0.0101$ const term 2000 linear term  $0.3081 \pm 0.0108$ quad term  $-0.3767 \pm 0.0115$  $-1.11 \pm 0.01$ 1500 cube term 1000 500 8.8 0.85 0.9 0.95 1.05 1.15

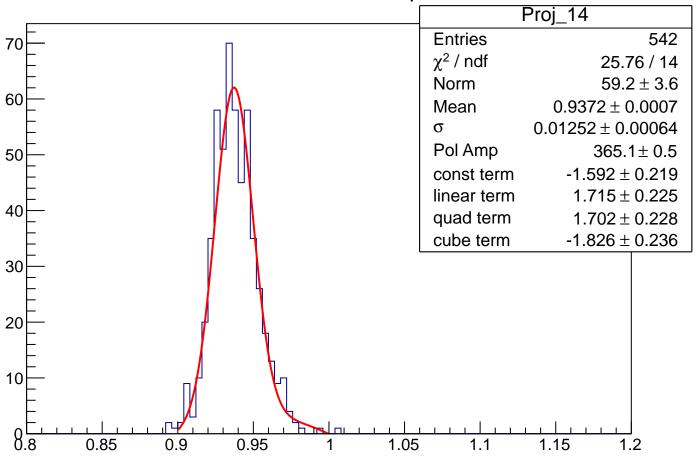
PhiThetaMassPip Proj\_10 **Entries** 8 2  $\chi^2$  / ndf 5.123e-05 / 0 1.8 Norm  $1.069 \pm 202.238$  $0.9719 \pm 0.011$ Mean 1.6 σ  $0.004403 \pm 0.148779$ Pol Amp  $1164 \pm 7640.0$ 1.4  $0.01449 \pm 0.00430$ const term linear term  $-0.01485 \pm 0.00462$ 1.2 quad term  $-0.01479 \pm 0.00484$  $0.01613 \pm 0.00495$ cube term 8.0 0.6 0.4 0.2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2





PhiThetaMassPip Proj\_13 **Entries** 415  $\chi^2$  / ndf 16.55 / 15 Norm  $49.87 \pm 3.35$ 50 Mean  $0.9367 \pm 0.0007$ σ  $0.01159 \pm 0.00060$ Pol Amp  $367.4 \pm 0.6$ 40 const term  $-0.8445 \pm 0.2086$ linear term  $0.9151 \pm 0.2247$ quad term  $0.902 \pm 0.226$ 30  $-0.9723 \pm 0.2438$ cube term 20 10 8.8 0.85 0.9 0.95 1.05 1.15

1.2



PhiThetaMassPip Proj\_15 **Entries** 580 70  $\chi^2$  / ndf 26.39 / 14 Norm  $62.13 \pm 3.49$ 60  $0.9373 \pm 0.0007$ Mean σ  $0.0131 \pm 0.0007$ Pol Amp  $366.1 \pm 0.5$ 50 const term  $-0.6115 \pm 0.0887$ linear term  $0.691 \pm 0.090$ 40 quad term  $0.6328 \pm 0.0881$  $-0.7117 \pm 0.0947$ cube term 30 20 10 8.8

1.05

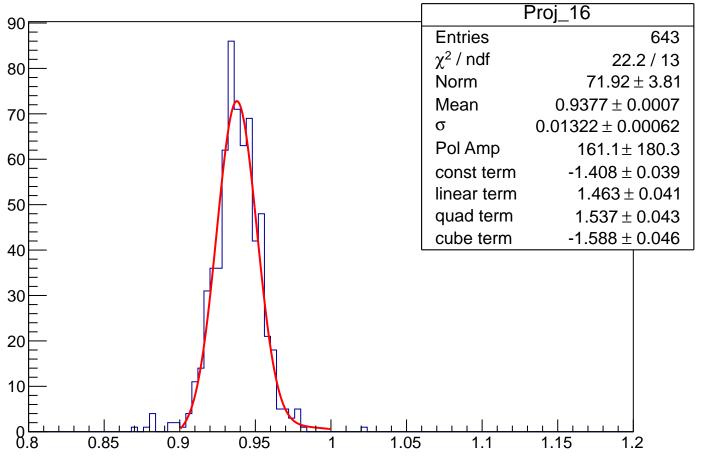
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PhiThetaMassPip Proj\_17 **Entries** 550 60  $\chi^2$  / ndf 16.88 / 13 Norm  $57.75 \pm 2.80$ Mean  $0.9366 \pm 0.0009$ 50 σ  $0.01637 \pm 0.00074$ Pol Amp  $2.527 \pm 4.750$ const term  $-10.31 \pm 14.57$ 40 linear term  $-0.4608 \pm 6.1564$ quad term  $5.226 \pm 4.418$  $6.057 \pm 17.289$ cube term 30 20 10 \_\_\_∏ 8.8

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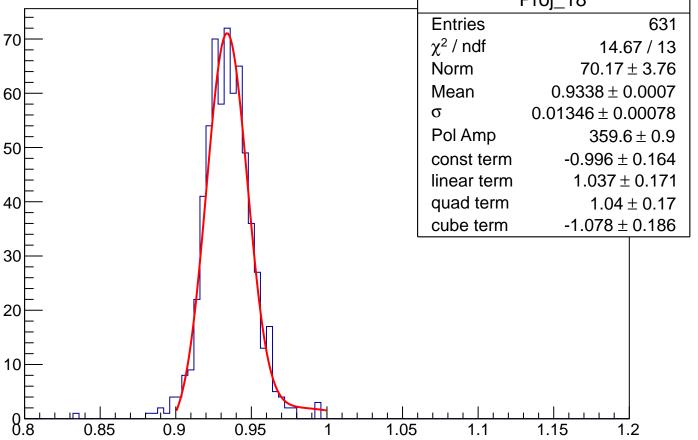
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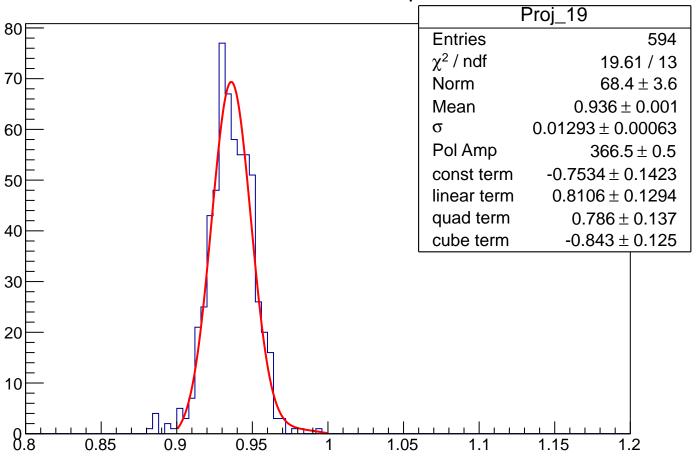
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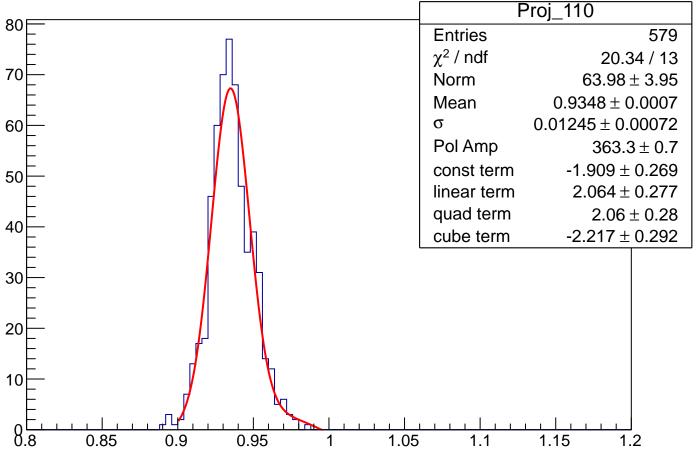
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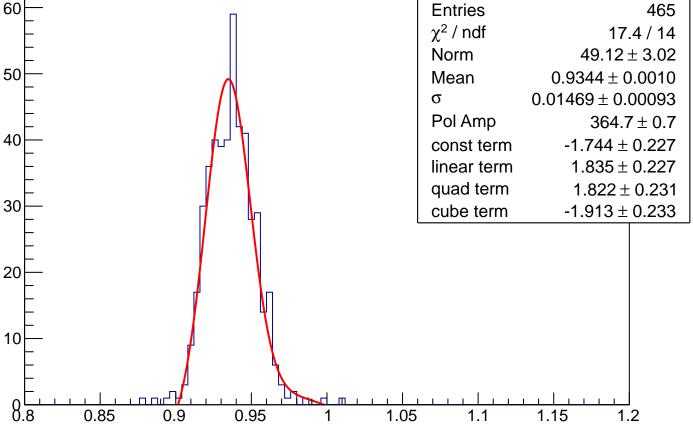
PhiThetaMassPip Proj\_18 **Entries** 631  $\chi^2$  / ndf 14.67 / 13 Norm  $70.17 \pm 3.76$ Mean  $0.9338 \pm 0.0007$ σ  $0.01346 \pm 0.00078$ Pol Amp  $359.6 \pm 0.9$ const term  $-0.996 \pm 0.164$ linear term  $1.037 \pm 0.171$ quad term  $1.04 \pm 0.17$ cube term  $-1.078 \pm 0.186$ 







PhiThetaMassPip Proj\_111 **Entries** 465  $\chi^2$  / ndf 17.4 / 14 Norm  $49.12 \pm 3.02$ Mean  $0.9344 \pm 0.0010$ σ  $0.01469 \pm 0.00093$ Pol Amp  $364.7 \pm 0.7$ const term  $-1.744 \pm 0.227$ linear term  $1.835 \pm 0.227$ quad term  $1.822 \pm 0.231$ cube term  $-1.913 \pm 0.233$ 



PhiThetaMassPip Proj\_112 22 **Entries** 197  $\chi^2$  / ndf 9.636 / 11 20 Norm  $21 \pm 2.0$ 18  $0.9362 \pm 0.0012$ Mean σ  $0.01385 \pm 0.00151$ 16 Pol Amp  $1 \pm 579.8$ 14 const term  $-3.322 \pm 4.704$ linear term  $3.561 \pm 5.406$ 12 quad term  $3.712 \pm 5.705$ cube term  $-3.963 \pm 5.545$ 10 8 6 4 2

1.05

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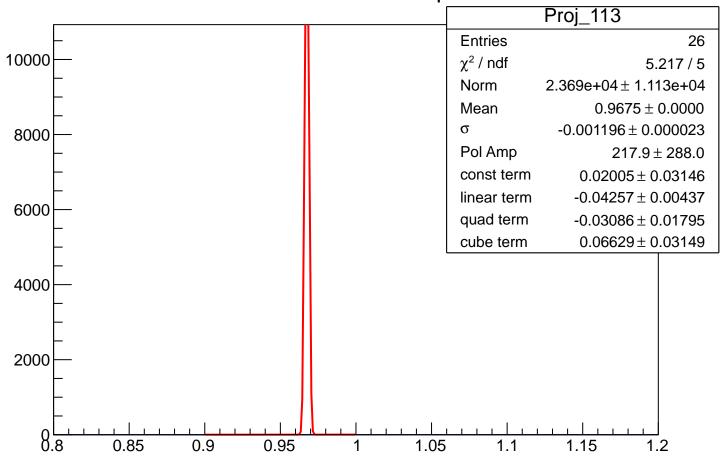
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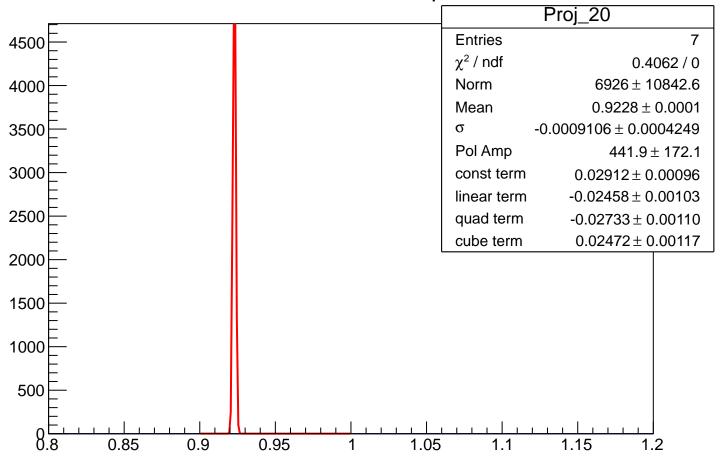
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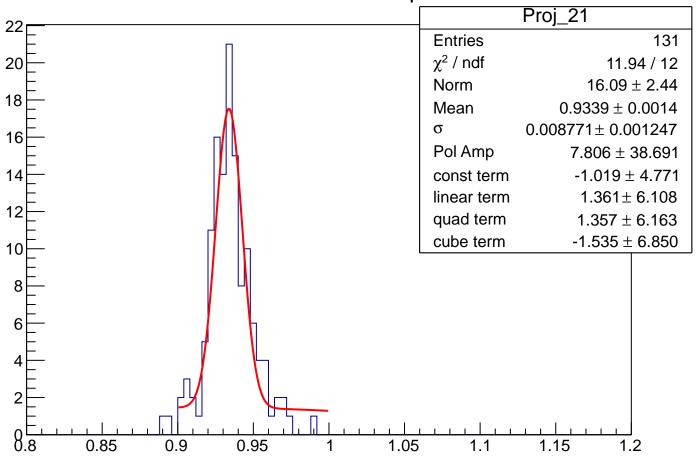
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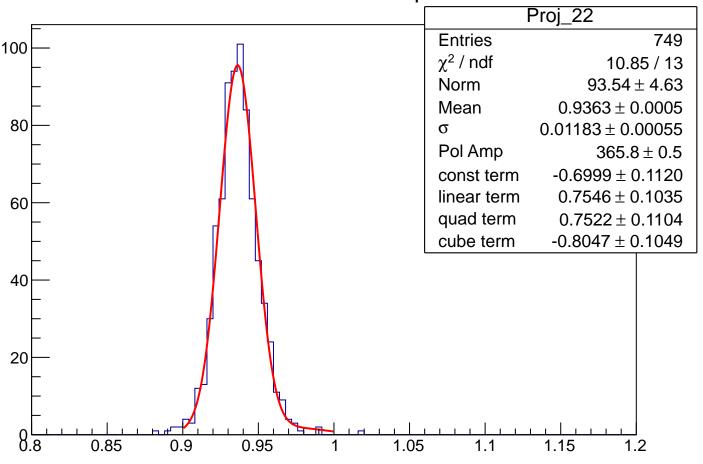
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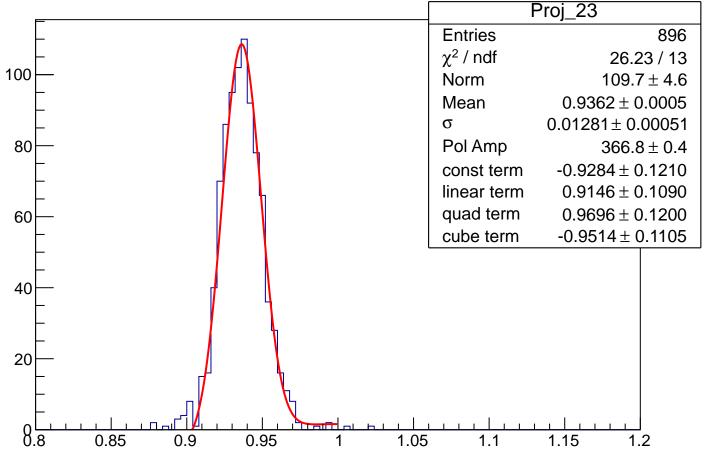


PhiThetaMassPip Proj\_114 **Entries** 14 14  $\chi^2$  / ndf 1115 / 4 Norm  $243.4 \pm 0.4$ 12 Mean  $0.9511 \pm 0.0000$ σ  $75.45 \pm 0.02$ Pol Amp  $1 \pm 0.0$ 10 const term  $-61.76 \pm 0.01$  $-65.18 \pm 0.02$ linear term 8 quad term  $-68.54 \pm 0.04$ cube term  $-71.82 \pm 0.06$ 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2









PhiThetaMassPip Proj\_24 **Entries** 886  $\chi^2$  / ndf 17.19 / 15 Norm  $112.6 \pm 4.9$ 100 Mean  $0.9357 \pm 0.0005$ σ  $0.01192 \pm 0.00045$ Pol Amp  $370.5 \pm 0.2$ 80 const term  $-0.3821 \pm 0.0593$ linear term  $0.4022 \pm 0.0465$ quad term  $0.3949 \pm 0.0520$ 60 cube term  $-0.412 \pm 0.045$ 40 20

1.05

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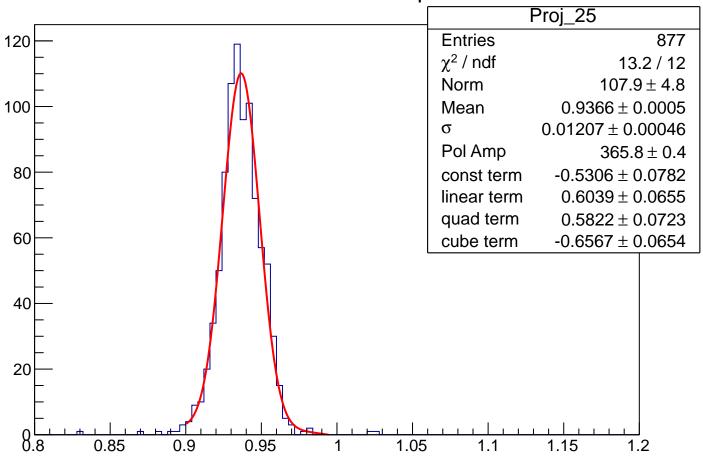
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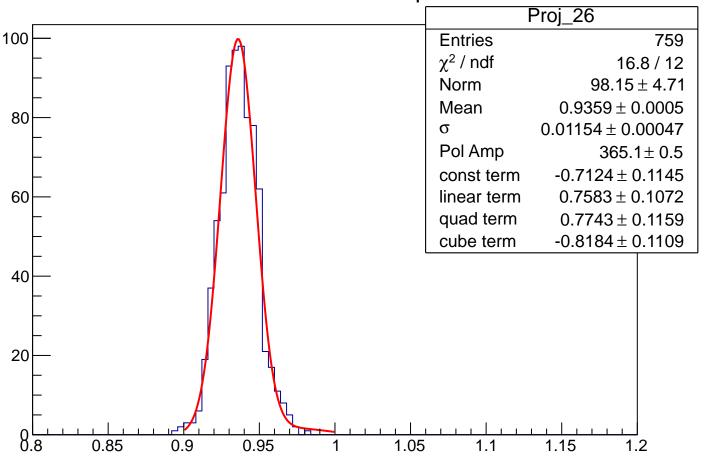
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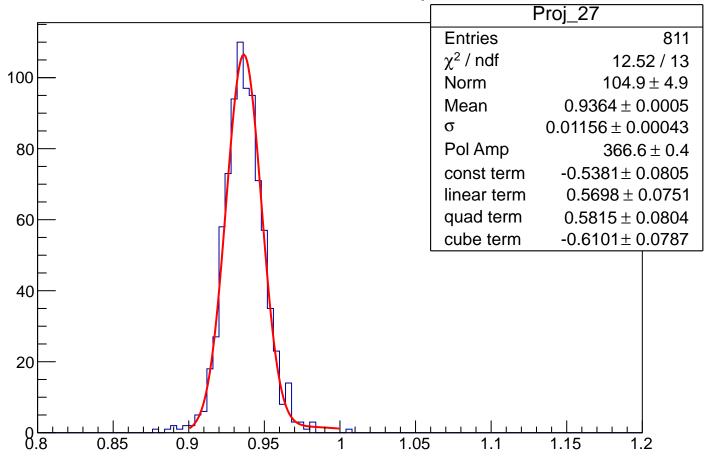
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PhiThetaMassPip Proj\_28 **Entries** 880  $\chi^2$  / ndf 15.96 / 14 100 Norm  $107.2 \pm 4.5$  $0.9375 \pm 0.0004$ Mean σ  $0.01256 \pm 0.00037$ 80 Pol Amp  $1.035 \pm 259.867$ const term  $-0.5962 \pm 0.8516$  $0.2684 \pm 1.3659$ linear term 60 quad term  $0.6153 \pm 0.8401$  $0.4467 \pm 5.8911$ cube term 40 20 8.8

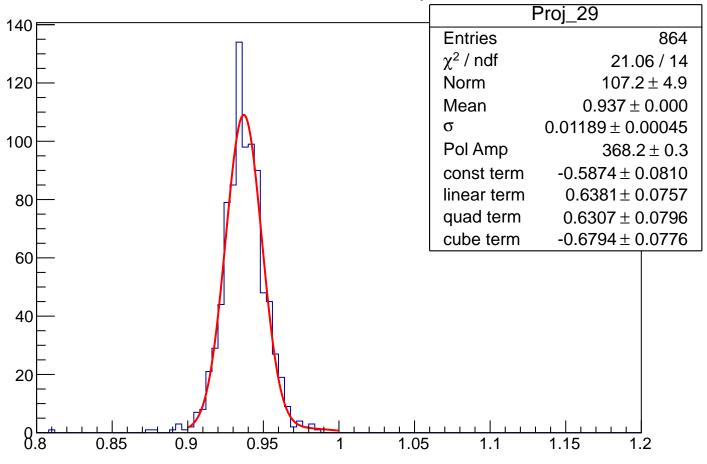
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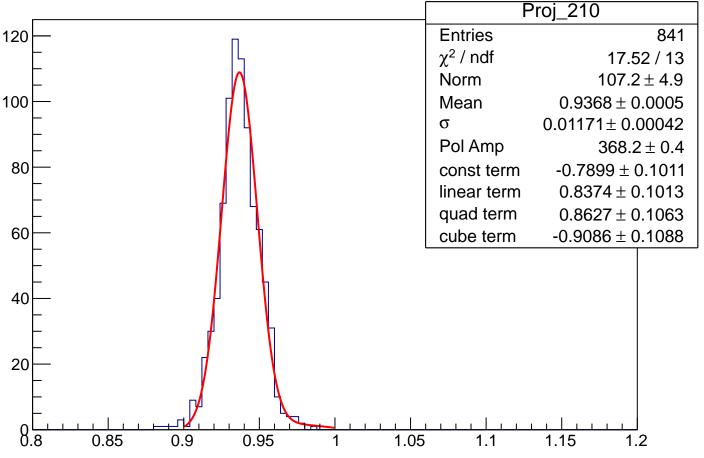
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PhiThetaMassPip Proj\_211 **Entries** 843  $\chi^2$  / ndf 12.61 / 13 100 Norm  $107.3 \pm 4.7$  $0.9372 \pm 0.0005$ Mean σ  $0.01195 \pm 0.00045$ 80 Pol Amp  $368 \pm 0.3$ const term  $-0.5295 \pm 0.0778$ linear term  $0.5678 \pm 0.0679$ quad term  $0.5647 \pm 0.0739$ 60  $-0.6018 \pm 0.0680$ cube term 40 20

1.05

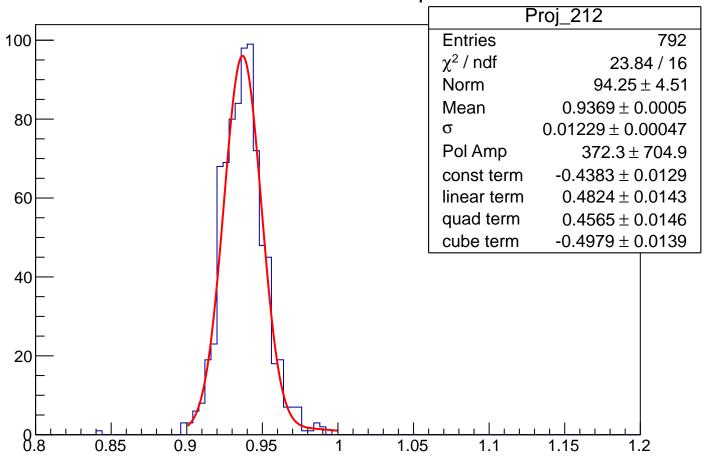
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PhiThetaMassPip Proj\_213 **Entries** 142  $\chi^2$  / ndf 10.4 / 11 16 Norm  $14.42 \pm 2.00$ Mean  $0.9358 \pm 0.0016$ 14 σ  $0.01201 \pm 0.00185$ Pol Amp 57.41 ± 141.03 12 const term  $-1.788 \pm 0.069$ linear term  $1.88 \pm 0.08$ 10 quad term  $2.005 \pm 0.088$ cube term  $-2.082 \pm 0.087$ 8 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_214 **Entries** 8  $\chi^2$  / ndf 0.007083 / 0 Norm  $76.76 \pm 60.38$ Mean  $0.937 \pm 0.070$ σ  $-20.19 \pm 1.42$ 8.0 Pol Amp  $1.209 \pm 0.904$ const term  $-43.84 \pm 1.67$ linear term  $-26.42 \pm 5.85$ 0.6 quad term  $-6.96 \pm 4.42$ cube term  $14.62 \pm 4.50$ 0.4 0.2

1.05

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PhiThetaMassPip Proj\_30 **Entries** 18 2  $\chi^2$  / ndf 1.447 / 4 Norm  $3034 \pm 77899.6$ 1.8 Mean  $0.8928 \pm 0.0735$ σ  $0.00203 \pm 0.01296$ 1.6 Pol Amp  $38.61 \pm 221.55$ 1.4 const term  $-0.2444 \pm 1.4939$ linear term  $0.1714 \pm 1.2128$ 1.2 quad term  $0.247 \pm 1.573$ cube term  $-0.1199 \pm 1.0638$ 8.0 0.6 0.4 0.2 8.8 0.95 0.85 0.9 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_31 **Entries** 495  $\chi^2$  / ndf 19.98 / 12  $58.57 \pm 3.90$ Norm Mean  $0.9379 \pm 0.0007$ σ  $0.01119 \pm 0.00059$ Pol Amp  $359 \pm 0.9$ const term  $-1.308 \pm 0.237$ linear term  $1.354 \pm 0.251$ quad term  $1.491 \pm 0.272$ cube term  $-1.532 \pm 0.291$ 

1.05

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70

60

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30

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PhiThetaMassPip Proj\_32 **Entries** 909 120  $\chi^2$  / ndf 12.67 / 14  $114.6 \pm 5.1$ Norm Mean  $0.938 \pm 0.000$ 100 σ  $0.01202 \pm 0.00045$ Pol Amp  $370.2 \pm 0.2$ const term  $-0.4258 \pm 0.0597$ 80 linear term  $0.4681 \pm 0.0531$ quad term  $0.4536 \pm 0.0563$  $-0.4948 \pm 0.0534$ cube term 60 40 20 8.8

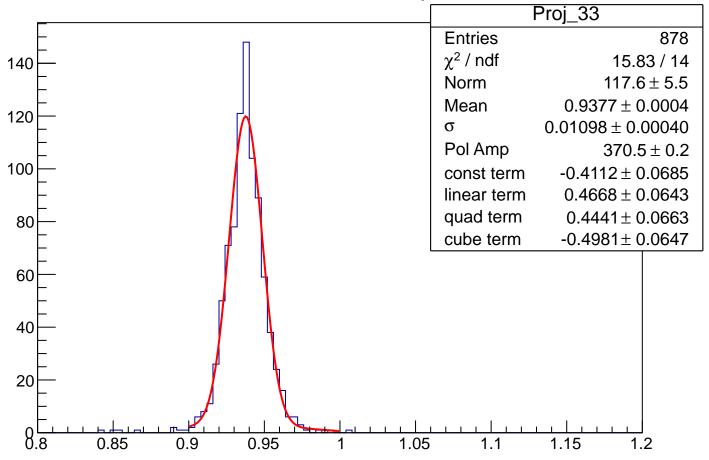
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PhiThetaMassPip Proj\_34 **Entries** 877  $\chi^2$  / ndf 14.81 / 14 120 Norm  $115.9 \pm 5.3$  $0.9378 \pm 0.0004$ Mean σ  $0.01116 \pm 0.00040$ 100 Pol Amp  $370 \pm 0.3$ const term  $-0.3736 \pm 0.0626$ 80 linear term  $0.4268 \pm 0.0578$ quad term  $0.4083 \pm 0.0604$  $-0.4605 \pm 0.0588$ cube term 60 40 20 8.8

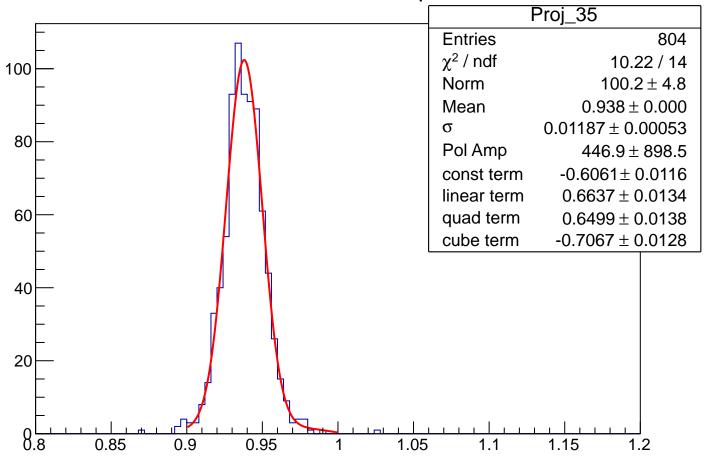
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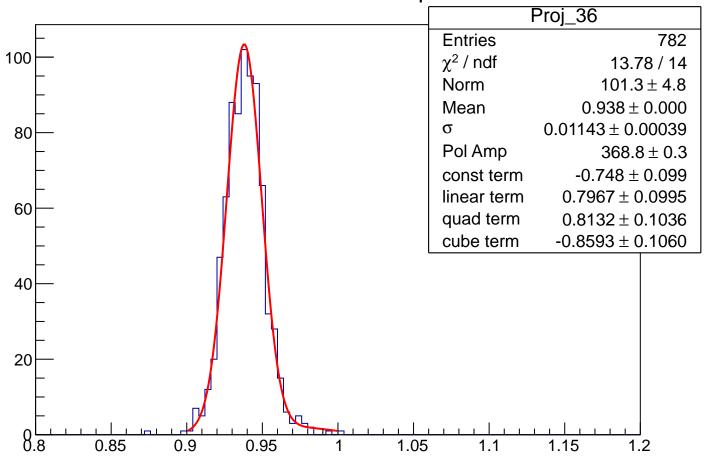
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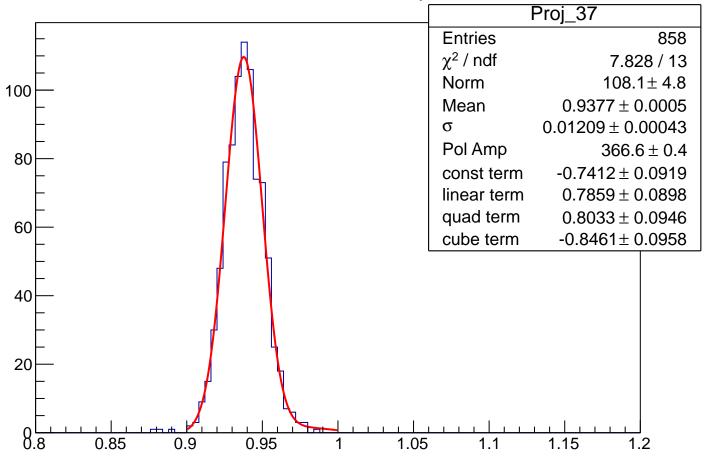
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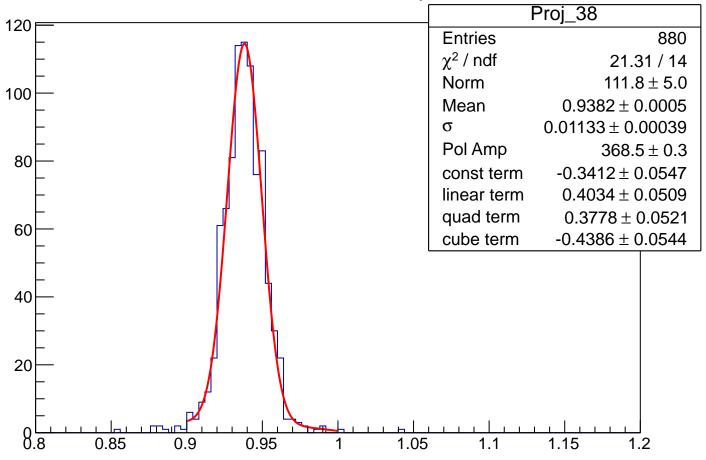
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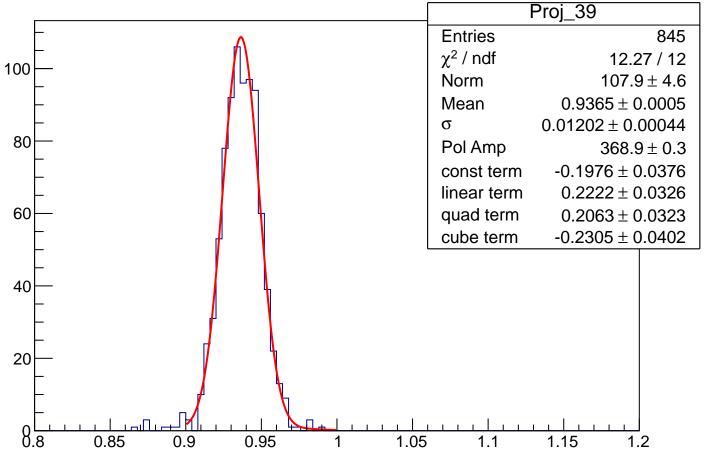
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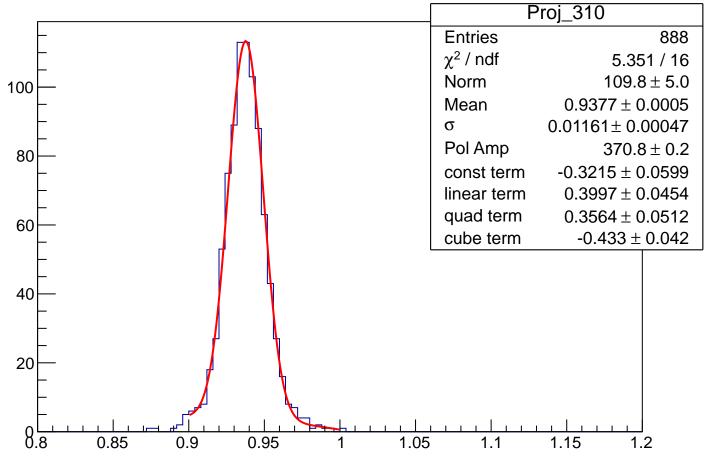












PhiThetaMassPip Proj\_311 **Entries** 810  $\chi^2$  / ndf 13.11 / 15 100 Norm  $105.7 \pm 4.7$  $0.9378 \pm 0.0005$ Mean σ  $0.01166 \pm 0.00036$ 80 Pol Amp  $2.015 \pm 49.591$ const term  $1.08 \pm 8.23$ linear term  $0.05552 \pm 1.03249$ 60 quad term  $-0.4219 \pm 4.0131$  $-0.3267 \pm 0.6630$ cube term 40 20 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_312 120 **Entries** 882  $\chi^2$  / ndf 20.66 / 14 Norm  $115.2 \pm 4.9$ 100  $0.9387 \pm 0.0004$ Mean σ  $0.0117 \pm 0.0004$ Pol Amp  $370 \pm 0.3$ 80 const term  $-0.5162 \pm 0.0700$  $0.5194 \pm 0.0667$ linear term quad term  $0.5552 \pm 0.0724$ 60  $-0.5553 \pm 0.0713$ cube term 40 20 8.8

1.05

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PhiThetaMassPip Proj\_313 **Entries** 523 70  $\chi^2$  / ndf 8.307 / 11 Norm  $67.12 \pm 4.04$ Mean  $0.9384 \pm 0.0006$ 60 σ  $0.01129 \pm 0.00061$ Pol Amp  $359.4 \pm 0.9$ 50 const term  $-0.8934 \pm 0.1735$ linear term  $0.9698 \pm 0.1751$ 40 quad term  $0.9807 \pm 0.1821$  $-1.057 \pm 0.187$ cube term 30 20 10 8.8

1.05

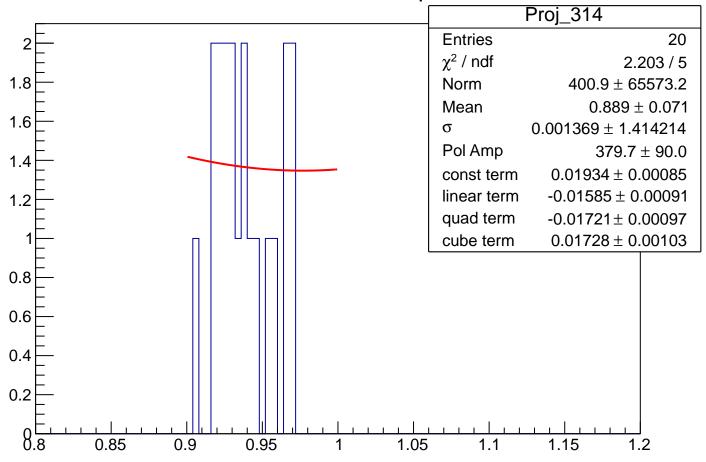
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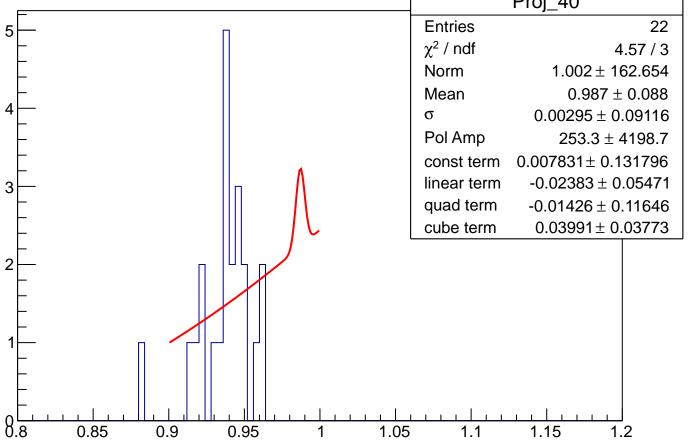
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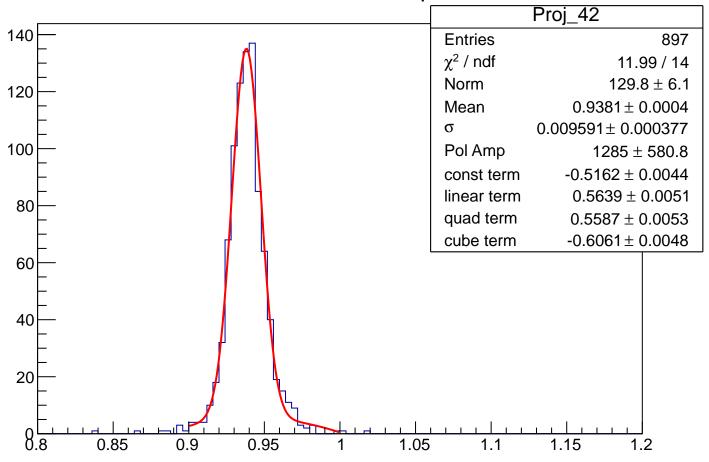
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PhiThetaMassPip Proj\_40 **Entries** 22  $\chi^2$  / ndf 4.57/3Norm  $1.002 \pm 162.654$ Mean  $0.987 \pm 0.088$ σ  $0.00295 \pm 0.09116$ Pol Amp  $253.3 \pm 4198.7$  $0.007831 \pm 0.131796$ const term linear term  $-0.02383 \pm 0.05471$ quad term  $-0.01426 \pm 0.11646$  $0.03991 \pm 0.03773$ cube term

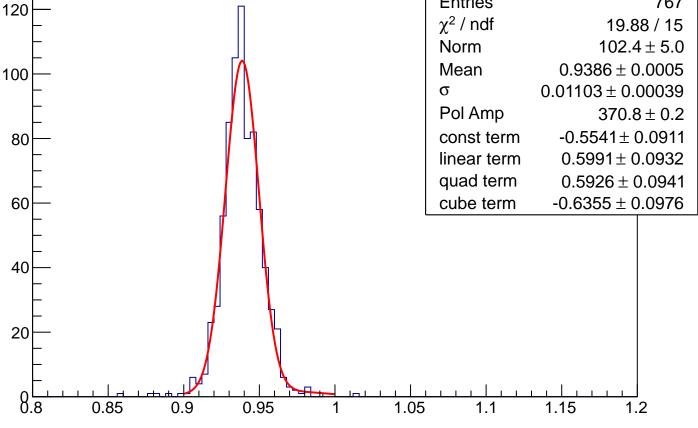


PhiThetaMassPip Proj\_41 **Entries** 670 90  $\chi^2$  / ndf 8.959 / 13 Norm  $82.83 \pm 4.48$ 80 Mean  $0.9391 \pm 0.0006$ σ  $0.01138 \pm 0.00046$ 70 Pol Amp  $364.8 \pm 0.5$ const term  $-1.11 \pm 0.15$ 60 linear term  $1.21 \pm 0.16$ quad term  $1.207 \pm 0.160$ 50 cube term  $-1.305 \pm 0.165$ 40 30 20 10 0.8 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2



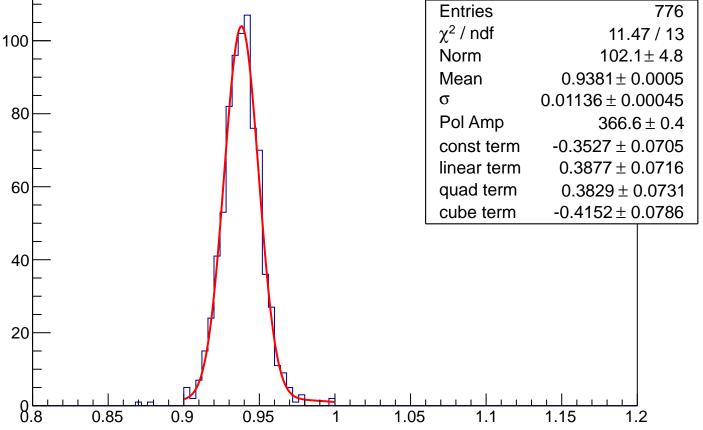
PhiThetaMassPip Proj\_43 **Entries** 799  $\chi^2$  / ndf 13.29 / 12 120 Norm  $112 \pm 5.1$ Mean  $0.9386 \pm 0.0004$ 100 σ  $0.01074 \pm 0.00037$ Pol Amp  $368.4 \pm 0.3$ const term  $-0.5093 \pm 0.0877$ 80 linear term  $0.5497 \pm 0.0873$ quad term  $0.5557 \pm 0.0912$  $-0.5942 \pm 0.0929$ cube term 60 40 20 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_44 **Entries** 767  $\chi^2$  / ndf 19.88 / 15 Norm  $102.4 \pm 5.0$ Mean  $0.9386 \pm 0.0005$ σ  $0.01103 \pm 0.00039$ Pol Amp  $370.8 \pm 0.2$ const term  $-0.5541 \pm 0.0911$ 80 linear term  $0.5991 \pm 0.0932$ quad term  $0.5926 \pm 0.0941$  $-0.6355 \pm 0.0976$ 60 cube term 40 20



PhiThetaMassPip Proj\_45 **Entries** 746  $\chi^2$  / ndf 19.18 / 12 100  $103 \pm 5.2$ Norm  $0.9389 \pm 0.0005$ Mean σ  $0.01037 \pm 0.00043$ 80 Pol Amp  $365.9 \pm 0.5$ const term  $-0.2561 \pm 0.0705$ linear term  $0.3096 \pm 0.0599$ 60 quad term  $0.2917 \pm 0.0655$  $-0.3425 \pm 0.0608$ cube term 40 20 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_46 **Entries** 776  $\chi^2$  / ndf 11.47 / 13 Norm  $102.1 \pm 4.8$ Mean  $0.9381 \pm 0.0005$ σ  $0.01136 \pm 0.00045$ Pol Amp  $366.6 \pm 0.4$ const term  $-0.3527 \pm 0.0705$ linear term  $0.3877 \pm 0.0716$ quad term  $0.3829 \pm 0.0731$  $-0.4152 \pm 0.0786$ cube term



PhiThetaMassPip Proj\_47 **Entries** 699 100  $\chi^2$  / ndf 13.46 / 14 Norm  $92.92 \pm 4.72$ Mean  $0.9375 \pm 0.0005$ 80 σ  $0.01105 \pm 0.00040$ Pol Amp  $369.4 \pm 0.3$ const term  $-0.9022 \pm 0.1478$ linear term  $0.9558 \pm 0.1523$ 60 quad term  $0.9784 \pm 0.1574$  $-1.03 \pm 0.16$ cube term 40 20 8.8

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PhiThetaMassPip Proj\_48 **Entries** 801  $\chi^2$  / ndf 9.497 / 14 100 Norm  $97.43 \pm 4.94$ Mean  $0.9381 \pm 0.0005$ σ  $0.01132 \pm 0.00052$ Pol Amp  $366.4 \pm 0.5$ 80 const term  $-0.7153 \pm 0.1156$ linear term  $0.8354 \pm 0.1126$ quad term  $0.7901 \pm 0.1154$ 60  $-0.909 \pm 0.116$ cube term 40 20

1.05

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8.8

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PhiThetaMassPip Proj\_49 **Entries** 774  $\chi^2$  / ndf 13.23 / 15  $105.2 \pm 5.0$ Norm 100 Mean  $0.938 \pm 0.000$ σ  $0.01098 \pm 0.00040$ Pol Amp  $371.5 \pm 0.2$ 80 const term  $-0.1847 \pm 0.0427$ linear term  $0.2182 \pm 0.0405$ quad term  $0.1987 \pm 0.0405$ 60  $-0.2308 \pm 0.0425$ cube term 40 20

1.05

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PhiThetaMassPip Proj\_410 **Entries** 794  $\chi^2$  / ndf 9.672 / 15 100 Norm  $102.5 \pm 4.9$ Mean  $0.938 \pm 0.000$  $0.01137 \pm 0.00045$ σ 80 Pol Amp  $370.5 \pm 0.3$ const term  $-0.3551 \pm 0.0614$ linear term  $0.413 \pm 0.054$ 60 quad term  $0.3842 \pm 0.0569$  $-0.4408 \pm 0.0530$ cube term 40 20

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0.9

PhiThetaMassPip Proj\_411 **Entries** 836  $\chi^2$  / ndf 16.72 / 15 120 Norm  $110.6 \pm 5.2$  $0.9376 \pm 0.0004$ Mean 100 σ  $0.0112 \pm 0.0004$ Pol Amp  $370.5 \pm 0.2$ const term  $-0.542 \pm 0.083$ 80 linear term  $0.5856 \pm 0.0843$ quad term  $0.5816 \pm 0.0855$  $-0.6226 \pm 0.0888$ cube term 60 40 20 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_412 **Entries** 815  $\chi^2$  / ndf 13.39 / 13 Norm  $106.6 \pm 5.1$ 100  $0.9375 \pm 0.0005$ Mean σ  $0.0111 \pm 0.0004$ Pol Amp  $368.4 \pm 0.4$ 80 const term  $-0.3451 \pm 0.0670$  $0.4179 \pm 0.0578$ linear term quad term  $0.3877 \pm 0.0622$ 60  $-0.4603 \pm 0.0578$ cube term 40 20 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_413 **Entries** 733  $\chi^2$  / ndf 8.699 / 15 100 Norm  $102.9 \pm 5.1$ Mean  $0.9367 \pm 0.0004$ σ  $0.01031 \pm 0.00043$ 80 Pol Amp  $630.9 \pm 550.2$ const term  $-0.3634 \pm 0.0078$  $0.4115 \pm 0.0083$ linear term 60 quad term  $0.3903 \pm 0.0084$  $-0.4379 \pm 0.0081$ cube term 40 20 8.8

1.05

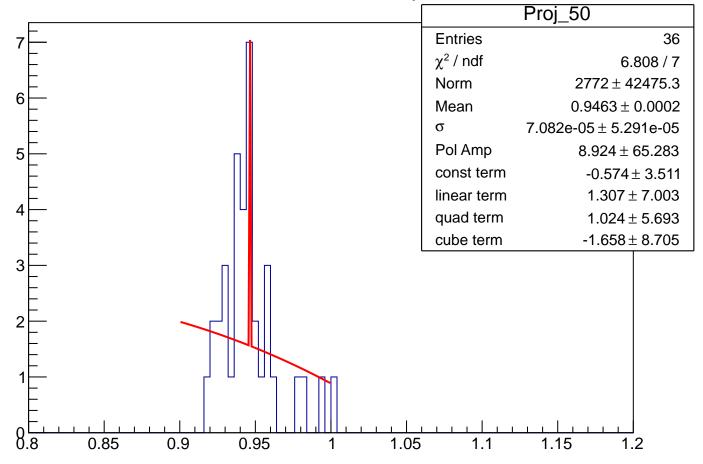
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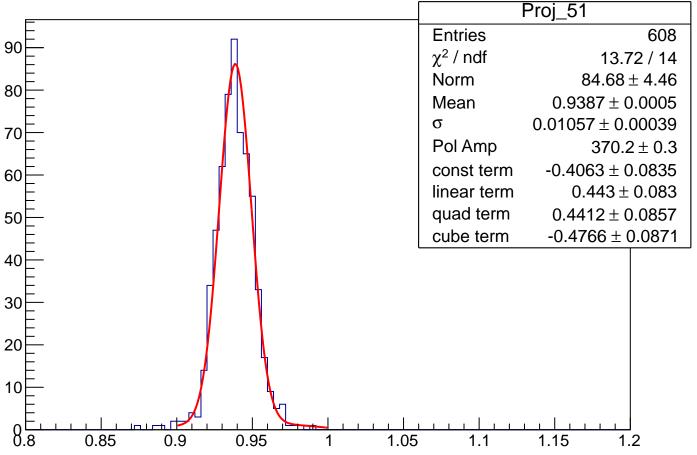
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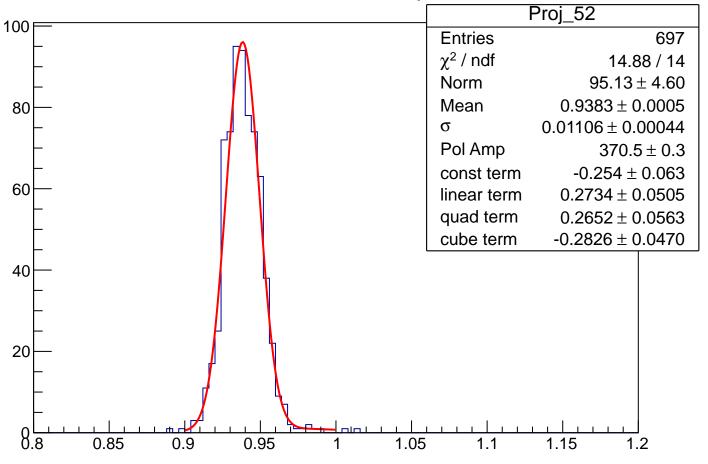
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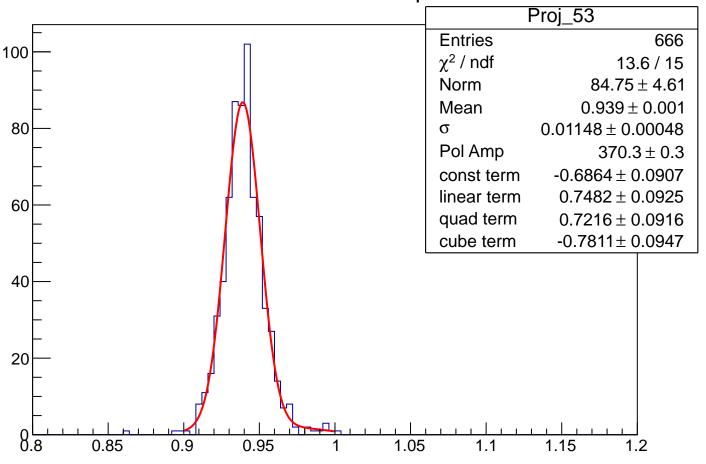
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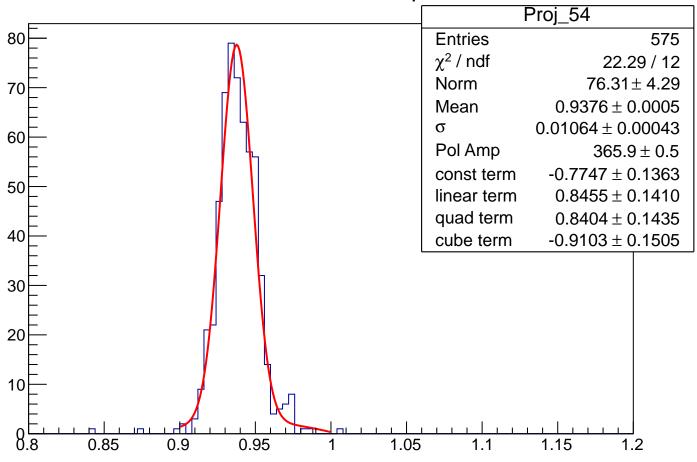
PhiThetaMassPip Proj\_414 **Entries** 38 8  $\chi^2$  / ndf 1.769 / 7 Norm  $6.574 \pm 2.708$ 7 Mean  $0.9388 \pm 0.0013$ σ  $-0.00318 \pm 0.00118$ 6 Pol Amp  $106.1 \pm 118.5$ const term  $-3.491 \pm 0.035$ 5 linear term  $3.797 \pm 0.040$ quad term  $3.942 \pm 0.042$ cube term  $-4.268 \pm 0.041$ 4 3 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

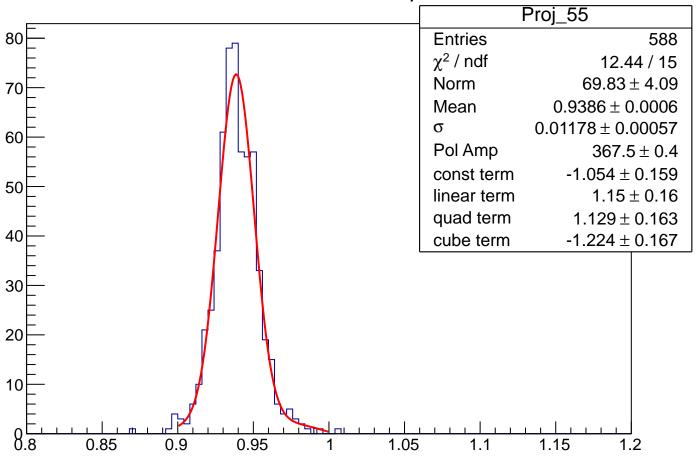


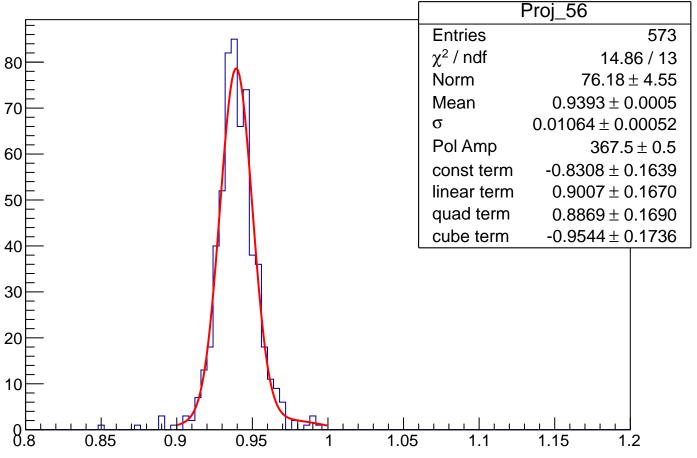


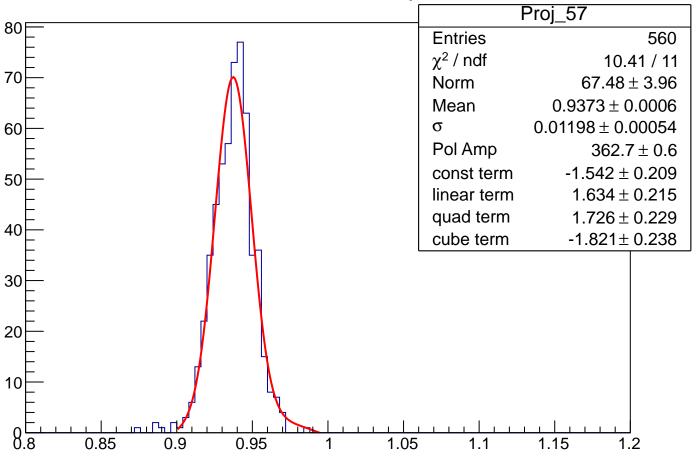












PhiThetaMassPip Proj\_58 **Entries** 594 80  $\chi^2$  / ndf 19.33 / 15 Norm  $78.52 \pm 4.46$ 70 Mean  $0.9393 \pm 0.0005$ σ  $0.01066 \pm 0.00044$ 60 Pol Amp  $370.1 \pm 0.3$ const term  $-0.5172 \pm 0.0969$ 50 linear term  $0.5756 \pm 0.0997$ quad term  $0.5564 \pm 0.0995$  $-0.6136 \pm 0.1036$ cube term 40 30 20 10

1.05

1.1

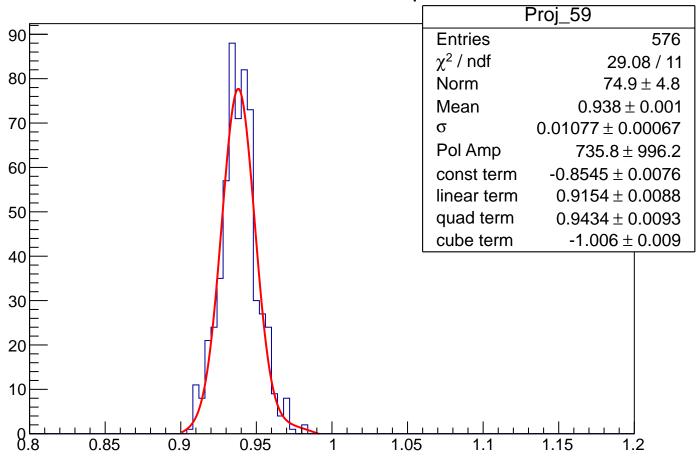
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PhiThetaMassPip Proj\_510 **Entries** 608  $\chi^2$  / ndf 17.24 / 15 80 Norm  $79.38 \pm 4.62$ Mean  $0.9389 \pm 0.0005$ 70 σ  $0.01018 \pm 0.00051$ Pol Amp  $613.9 \pm 295.5$ 60 const term  $-0.4027 \pm 0.0087$ linear term  $0.4749 \pm 0.0090$ 50 quad term  $0.442 \pm 0.009$  $-0.5146 \pm 0.0092$ cube term 40 30 20 10

1.05

1.1

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8.8

0.85

0.9

PhiThetaMassPip Proj\_511 **Entries** 637 90  $\chi^2$  / ndf 19.58 / 14 Norm  $85.63 \pm 4.72$ 80  $0.9375 \pm 0.0005$ Mean σ  $0.01042 \pm 0.00044$ 70 Pol Amp  $369.4 \pm 0.3$ 60 const term  $-0.5055 \pm 0.1006$ linear term  $0.5711 \pm 0.1010$ 50 quad term  $0.5441 \pm 0.1014$  $-0.6077 \pm 0.1035$ cube term 40 30 20 10

1.05

1.1

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0.8 8.8

0.85

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PhiThetaMassPip Proj\_512 **Entries** 695  $\chi^2$  / ndf 18.55 / 13 100 Norm  $91.19 \pm 5.06$ Mean  $0.938 \pm 0.000$ σ  $0.01027 \pm 0.00054$ 80 Pol Amp  $495.3 \pm 501.0$ const term  $-0.7422 \pm 0.0132$ linear term  $0.8121 \pm 0.0150$ 60 quad term  $0.8212 \pm 0.0154$  $-0.8884 \pm 0.0141$ cube term 40 20

1.05

1.1

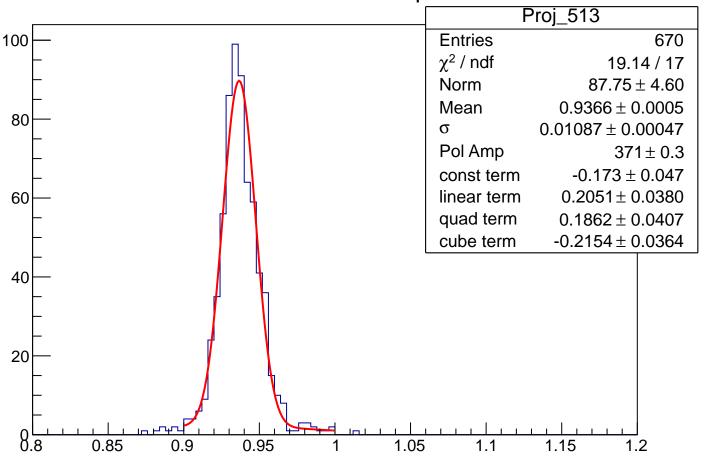
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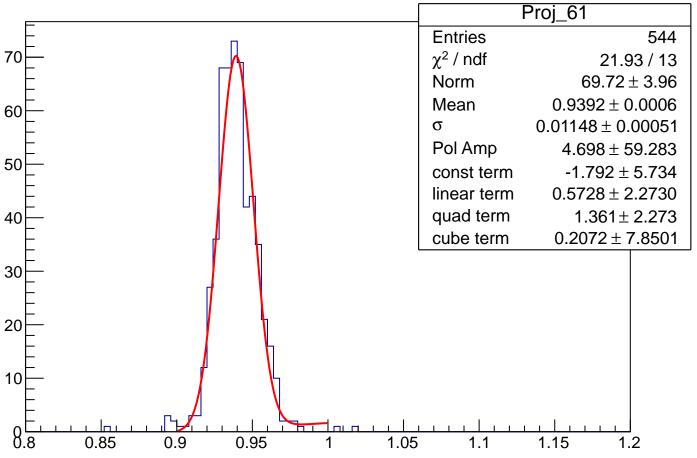
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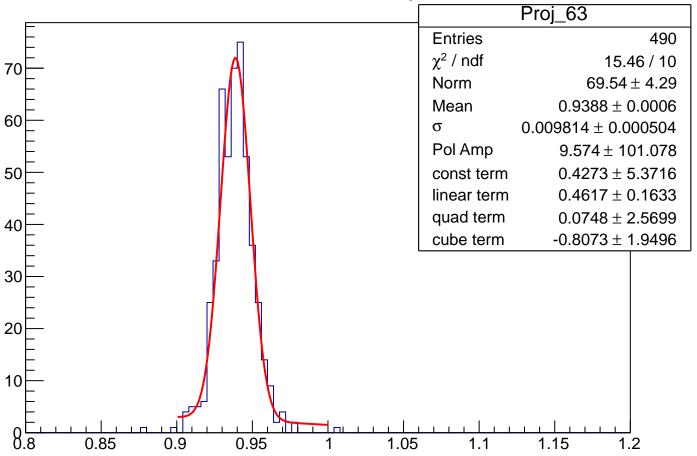


PhiThetaMassPip Proj\_514 **Entries** 100  $\chi^2$  / ndf 9.598 / 8 16 Norm  $11.82 \pm 1.94$ Mean  $0.9364 \pm 0.0016$ 14 σ  $0.01009 \pm 0.00170$ Pol Amp  $5.891 \pm 246.200$ 12 const term  $-3.035 \pm 3.848$ linear term  $2.75 \pm 1.32$ 10 quad term  $3.205 \pm 1.964$ cube term  $-2.684 \pm 5.987$ 8 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

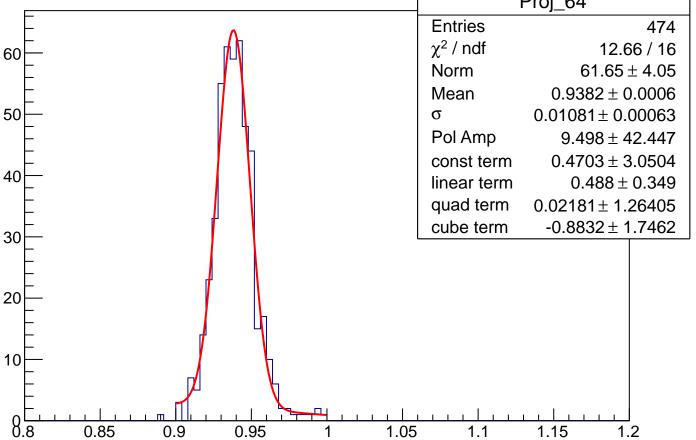
PhiThetaMassPip Proj\_60 **Entries** 37 5  $\chi^2$  / ndf 8.173 / 6 Norm  $75.24 \pm 25.70$ Mean  $0.893 \pm 0.003$ 4 σ  $-0.07788 \pm 0.01741$ Pol Amp  $140.7 \pm 42.4$ const term  $-0.7078 \pm 0.2902$ linear term  $-1.144 \pm 0.080$ 3 quad term  $-0.331 \pm 0.145$ cube term  $1.983 \pm 0.318$ 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15

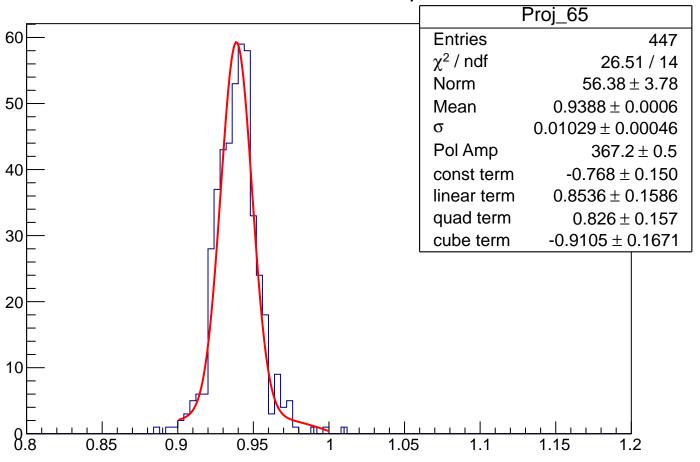


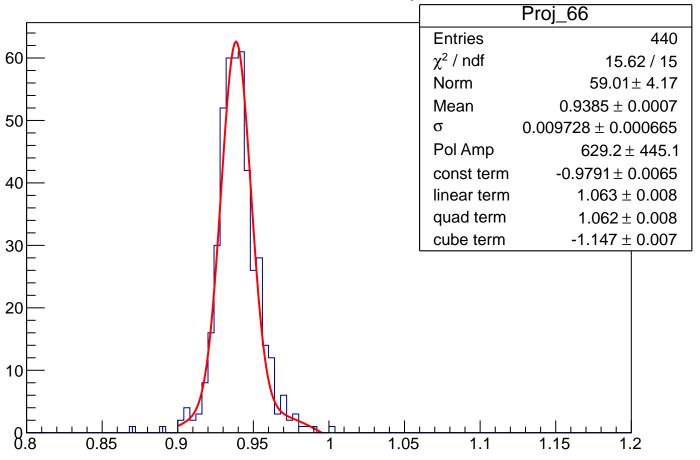
PhiThetaMassPip Proj\_62 **Entries** 473 60  $\chi^2$  / ndf 15.46 / 13 Norm  $59.35 \pm 3.96$  $0.9379 \pm 0.0006$ Mean 50 σ  $0.0109 \pm 0.0007$ Pol Amp  $360.3 \pm 447.3$ const term  $-0.8528 \pm 0.0139$ 40  $0.9389 \pm 0.0155$ linear term quad term  $0.9045 \pm 0.0158$  $-0.9891 \pm 0.0148$ cube term 30 20 10 hPh 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

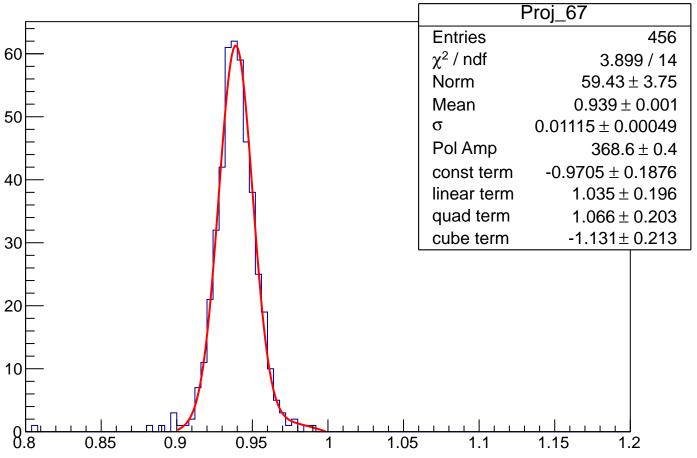


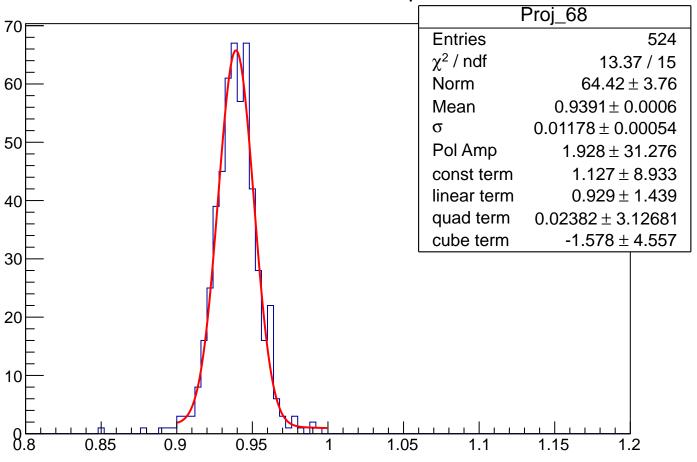
PhiThetaMassPip Proj\_64 **Entries** 474  $\chi^2$  / ndf 12.66 / 16 Norm  $61.65 \pm 4.05$ Mean  $0.9382 \pm 0.0006$ σ  $0.01081 \pm 0.00063$ Pol Amp  $9.498 \pm 42.447$ const term  $0.4703 \pm 3.0504$  $0.488 \pm 0.349$ linear term quad term  $0.02181 \pm 1.26405$ cube term  $-0.8832 \pm 1.7462$ 

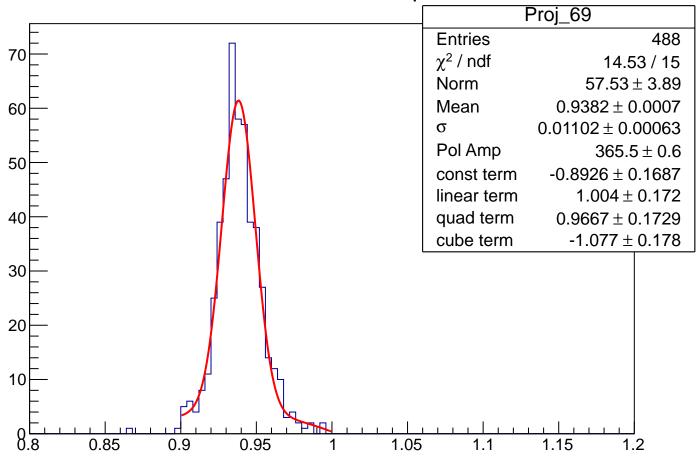


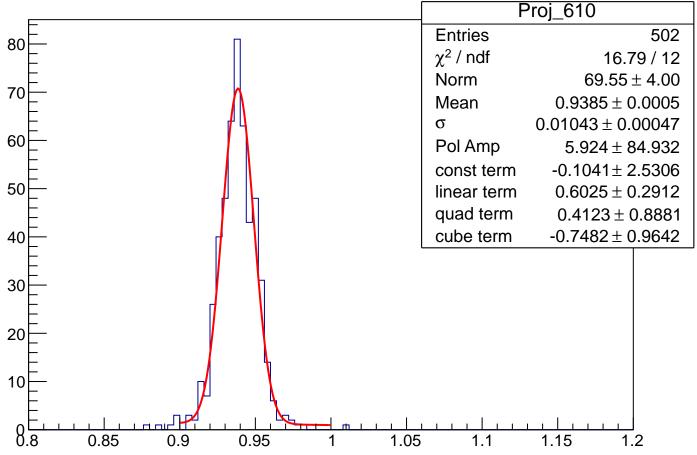


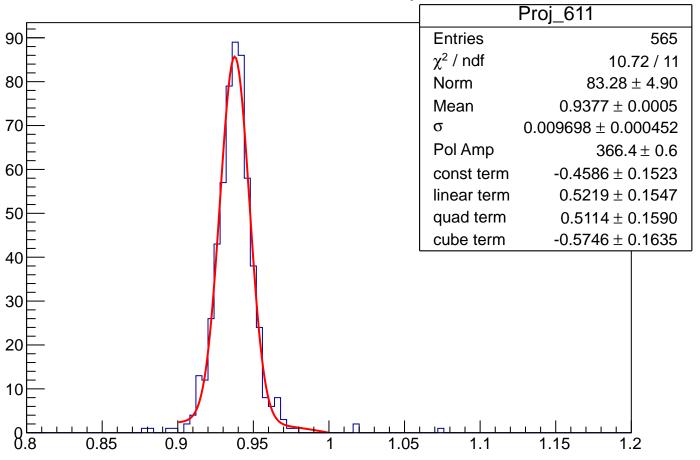












PhiThetaMassPip Proj\_612 **Entries** 539 80  $\chi^2$  / ndf 3.445 / 12 Norm  $70.83 \pm 4.72$ 70  $0.9369 \pm 0.0006$ Mean σ  $0.0101 \pm 0.0006$ 60 Pol Amp  $1660 \pm 1003.3$ const term  $-0.8446 \pm 0.0034$ 50 linear term  $0.9163 \pm 0.0039$ quad term  $0.917 \pm 0.004$ 40  $-0.9913 \pm 0.0038$ cube term 30 20 10

1.05

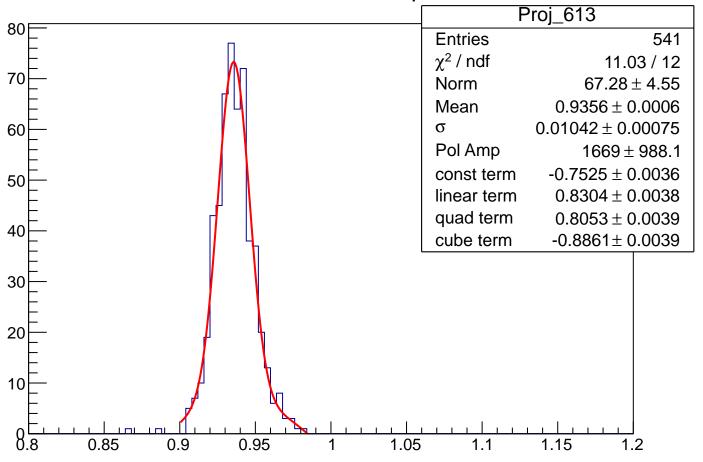
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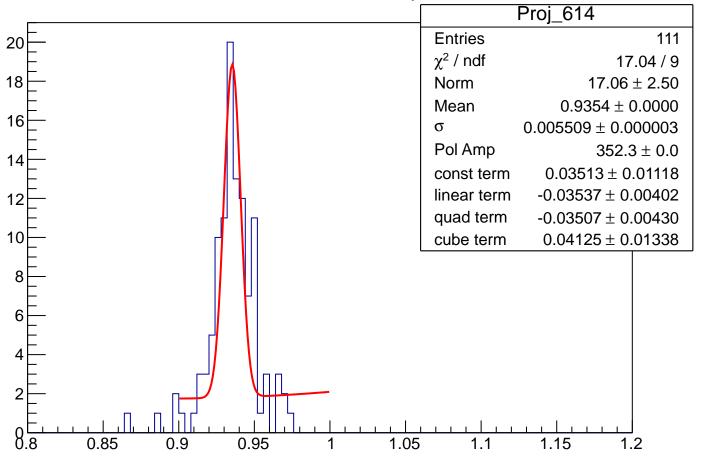
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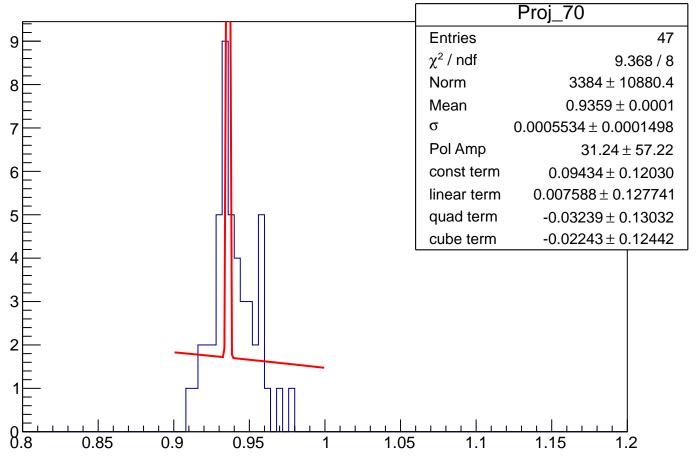
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PhiThetaMassPip Proj\_71 **Entries** 424 60  $\chi^2$  / ndf 10.15 / 13 Norm  $54.26 \pm 3.53$  $0.9374 \pm 0.0007$ Mean 50 σ  $0.01137 \pm 0.00061$ Pol Amp  $367.7 \pm 0.6$ 40 const term  $-0.9719 \pm 0.1995$ linear term  $1.039 \pm 0.203$ quad term  $1.032 \pm 0.206$ 30 cube term  $-1.099 \pm 0.210$ 20 10 8.8

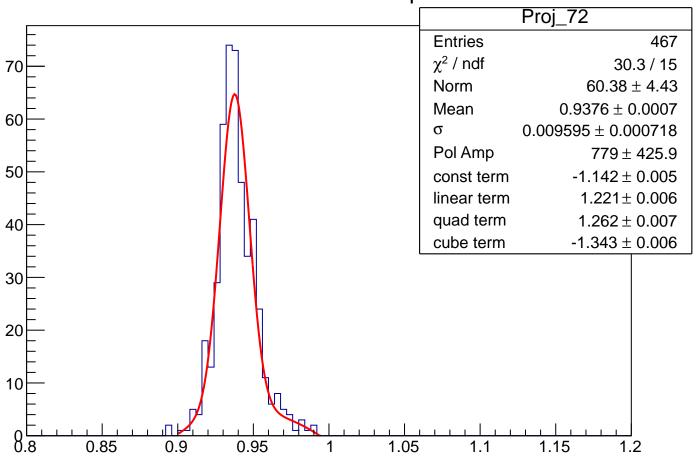
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PhiThetaMassPip Proj\_73 **Entries** 400  $\chi^2$  / ndf 20.86 / 14 60  $50.89 \pm 3.60$ Norm Mean  $0.9384 \pm 0.0007$ σ  $0.01035 \pm 0.00049$ 50 Pol Amp  $365.5 \pm 0.7$ const term  $-0.9007 \pm 0.2088$ 40 linear term  $0.9709 \pm 0.2198$ quad term  $0.9939 \pm 0.2269$  $-1.063 \pm 0.240$ cube term 30 20 10 8.8

1.05

1.15

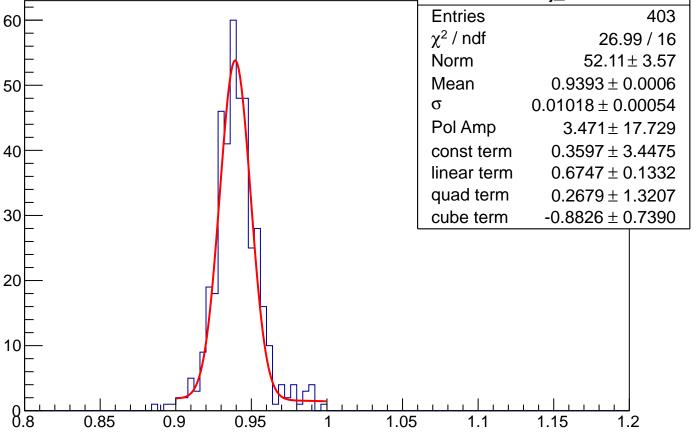
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0.95

PhiThetaMassPip Proj\_74 **Entries** 403  $\chi^2$  / ndf 26.99 / 16 Norm 52.11 ± 3.57 Mean  $0.9393 \pm 0.0006$ σ  $0.01018 \pm 0.00054$ Pol Amp  $3.471 \pm 17.729$ const term  $0.3597 \pm 3.4475$  $0.6747 \pm 0.1332$ linear term quad term  $0.2679 \pm 1.3207$ cube term  $-0.8826 \pm 0.7390$ 



PhiThetaMassPip <u>Proj\_75</u> **Entries** 373 50  $\chi^2$  / ndf 8.843 / 12 Norm  $49.53 \pm 3.70$ Mean  $0.9384 \pm 0.0007$ σ  $0.01054 \pm 0.00072$ 40 Pol Amp  $183.7 \pm 502.7$ const term  $-1.099 \pm 0.027$ linear term  $1.192 \pm 0.031$ 30 quad term  $1.231 \pm 0.032$ cube term  $-1.323 \pm 0.029$ 20 10 8.8

1.05

1.15

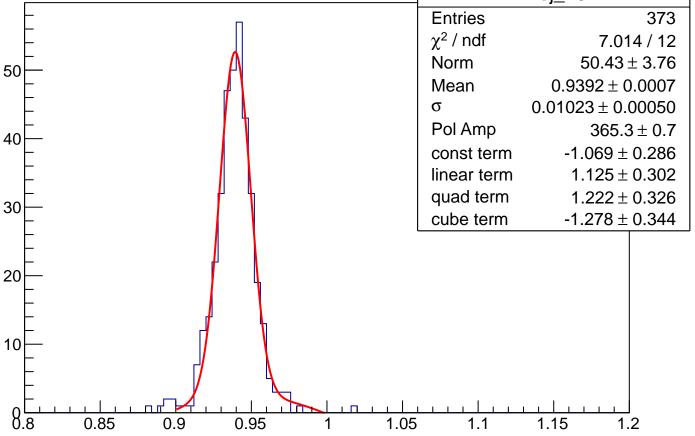
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PhiThetaMassPip <u>Proj\_76</u> **Entries** 373  $\chi^2$  / ndf 7.014 / 12 Norm  $50.43 \pm 3.76$ Mean  $0.9392 \pm 0.0007$ σ  $0.01023 \pm 0.00050$ Pol Amp  $365.3 \pm 0.7$ const term  $-1.069 \pm 0.286$ linear term  $1.125 \pm 0.302$ quad term  $1.222 \pm 0.326$ cube term  $-1.278 \pm 0.344$ 



PhiThetaMassPip Proj\_77 **Entries** 359 45  $\chi^2$  / ndf 9.17 / 14 Norm  $43.78 \pm 3.18$ 40 Mean  $0.9392 \pm 0.0008$ σ  $0.01102 \pm 0.00070$ 35 Pol Amp  $4.56 \pm 11.40$ const term  $1.957 \pm 5.346$ 30 linear term  $0.6406 \pm 0.5568$ quad term  $-0.6561 \pm 2.3660$ 25 cube term  $-1.819 \pm 3.255$ 20 15 10 5 0.8 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip <u>Proj\_78</u> **Entries** 376  $\chi^2$  / ndf 4.582 / 13 50 Norm  $46.1 \pm 3.7$ Mean  $0.9395 \pm 0.0007$ σ  $0.01049 \pm 0.00060$ 40 Pol Amp  $364.1 \pm 0.7$ const term  $-1.392 \pm 0.275$ linear term  $1.533 \pm 0.292$ 30 quad term  $1.525 \pm 0.295$ cube term  $-1.67 \pm 0.31$ 20 10 8.8

1.05

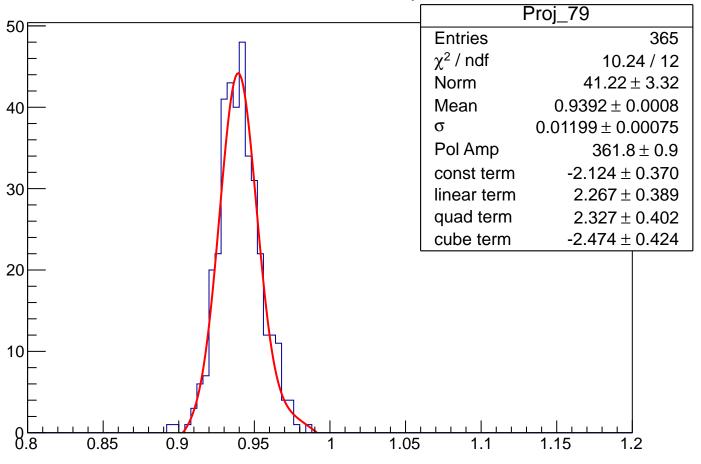
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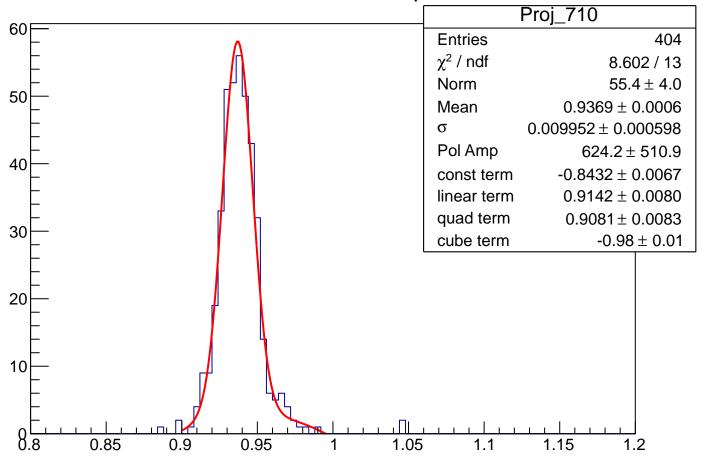
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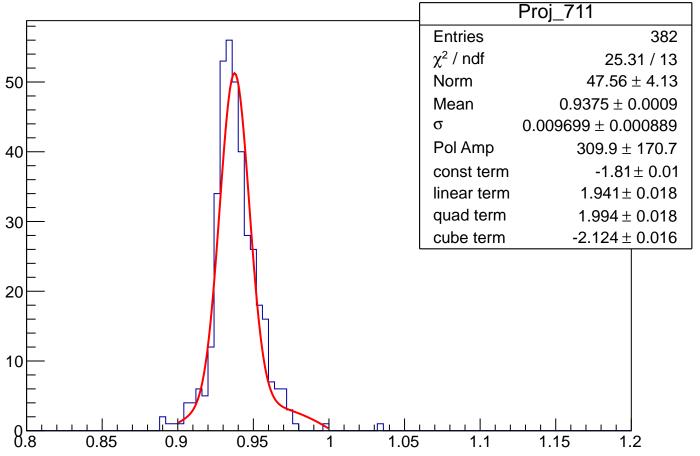
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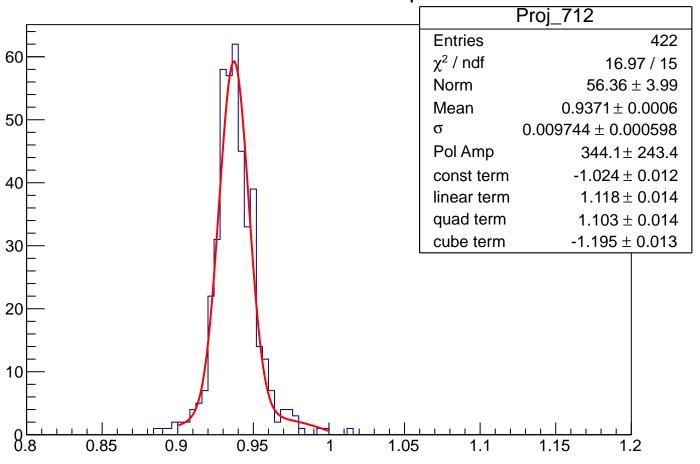
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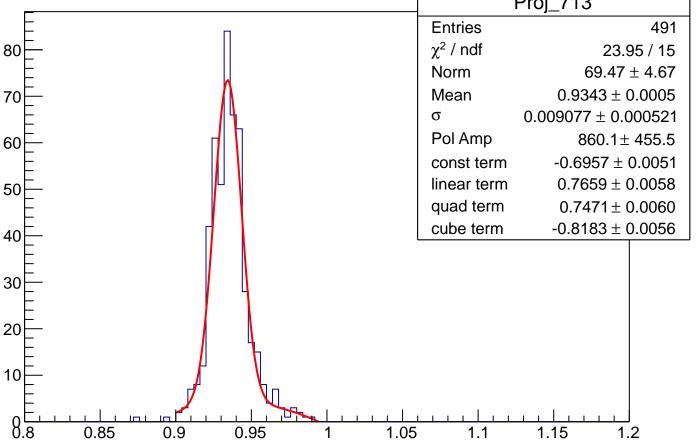




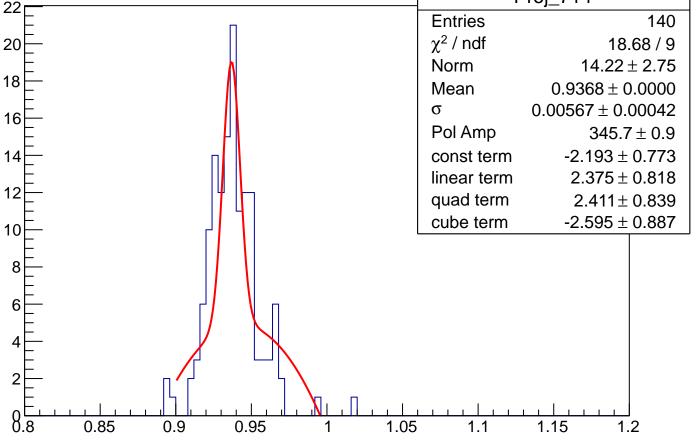




PhiThetaMassPip Proj\_713 **Entries** 491  $\chi^2$  / ndf 23.95 / 15 Norm  $69.47 \pm 4.67$ Mean  $0.9343 \pm 0.0005$ σ  $0.009077 \pm 0.000521$ Pol Amp  $860.1 \pm 455.5$ const term  $-0.6957 \pm 0.0051$ linear term  $0.7659 \pm 0.0058$ quad term  $0.7471 \pm 0.0060$  $-0.8183 \pm 0.0056$ cube term



PhiThetaMassPip Proj\_714 **Entries** 140  $\chi^2$  / ndf 18.68 / 9 Norm  $14.22 \pm 2.75$ Mean  $0.9368 \pm 0.0000$ σ  $0.00567 \pm 0.00042$ Pol Amp  $345.7 \pm 0.9$ const term  $-2.193 \pm 0.773$ linear term  $2.375 \pm 0.818$ quad term  $2.411 \pm 0.839$ cube term  $-2.595 \pm 0.887$ 



PhiThetaMassPip Proj\_80 **Entries** 43 8  $\chi^2$  / ndf 2.029 / 8 Norm  $6.76 \pm 2.01$  $0.9419 \pm 0.0016$ Mean σ  $0.005742 \pm 0.001666$ 6 Pol Amp  $30.45 \pm 105.02$ const term  $-1.052 \pm 0.103$ 5  $1.13 \pm 0.12$ linear term quad term  $1.207 \pm 0.132$ 4 cube term  $-1.252 \pm 0.127$ 3 2 8.8 0.95 0.85 0.9 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_81 **Entries** 386  $\chi^2$  / ndf 50 10.47 / 11 Norm  $50.79 \pm 3.43$  $0.9381 \pm 0.0007$ Mean σ  $0.0108 \pm 0.0006$ 40 Pol Amp  $1.664 \pm 69.702$ const term  $1.962 \pm 23.487$ linear term  $1.486 \pm 5.220$ 30 quad term  $-0.1024 \pm 8.1778$ cube term  $-2.805 \pm 16.308$ 20 10 8.8

1.05

1.1

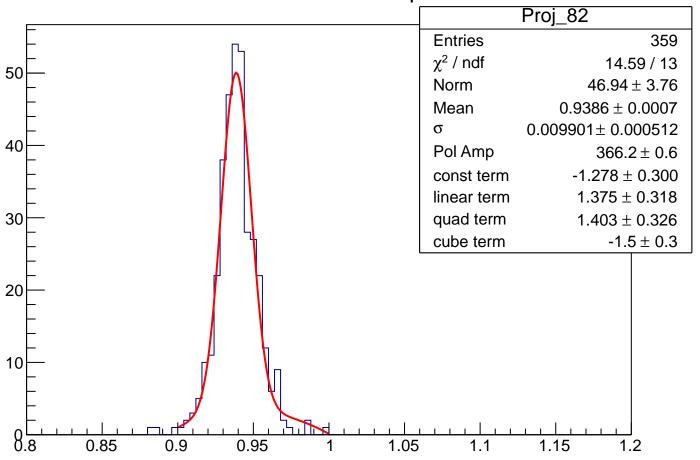
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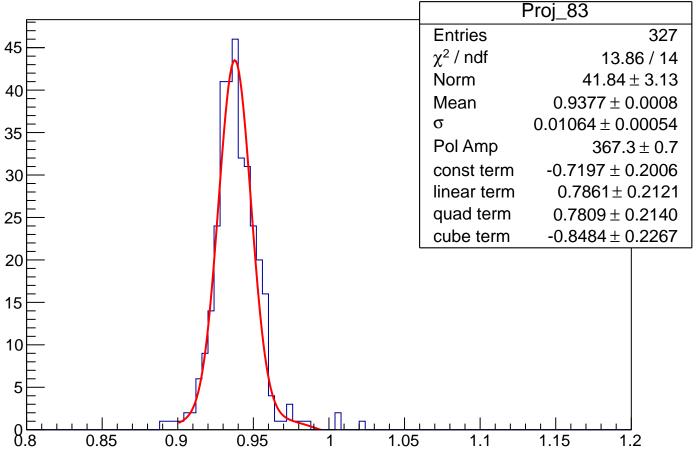
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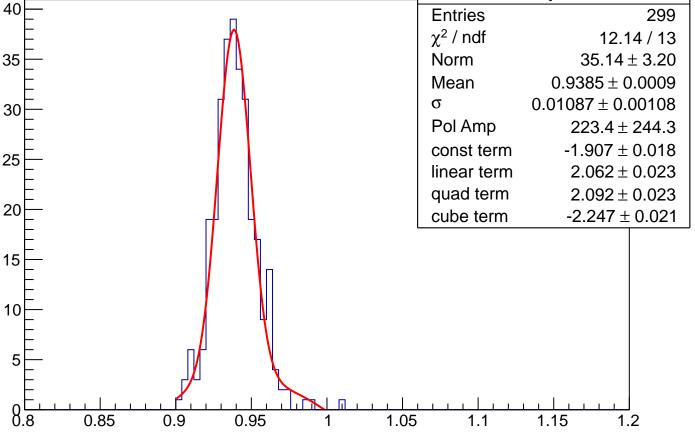
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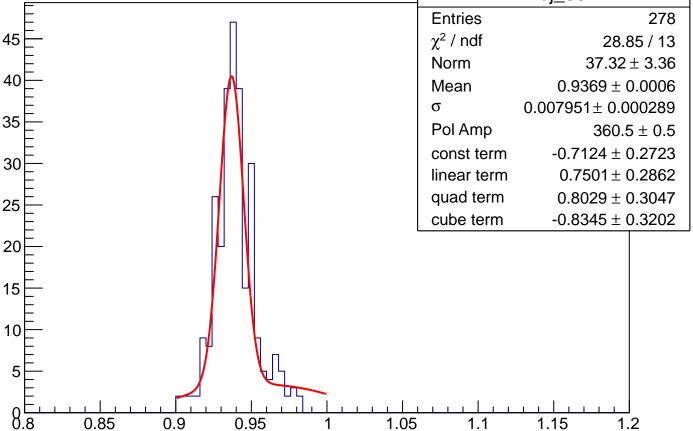


PhiThetaMassPip Proj\_84 **Entries** 323 50  $\chi^2$  / ndf 11.2 / 13 Norm  $39.86 \pm 3.28$ Mean  $0.9392 \pm 0.0008$ 40 σ  $0.01069 \pm 0.00055$ Pol Amp  $365.3 \pm 0.6$ const term  $-1.515 \pm 0.311$ linear term  $1.618 \pm 0.327$ 30 quad term  $1.676 \pm 0.341$ cube term  $-1.78 \pm 0.36$ 20 10 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_85 **Entries** 299  $\chi^2$  / ndf 12.14 / 13 Norm  $35.14 \pm 3.20$ Mean  $0.9385 \pm 0.0009$ σ  $0.01087 \pm 0.00108$ Pol Amp  $223.4 \pm 244.3$ const term  $-1.907 \pm 0.018$ linear term  $2.062 \pm 0.023$ quad term  $2.092 \pm 0.023$ cube term  $-2.247 \pm 0.021$ 



PhiThetaMassPip Proj\_86 **Entries**  $\chi^2$  / ndf Norm Mean σ Pol Amp const term



PhiThetaMassPip Proj\_87 **Entries** 303  $\chi^2$  / ndf 16.21 / 12 35 Norm  $31.35 \pm 3.27$ Mean  $0.9385 \pm 0.0010$ 30 σ  $0.01022 \pm 0.00067$ Pol Amp  $358.1 \pm 0.9$ const term  $-2.898 \pm 0.561$ 25 linear term  $3.122 \pm 0.595$ quad term  $3.156 \pm 0.605$ 20 cube term  $-3.382 \pm 0.640$ 15 10 5 8.8

1.05

1.1

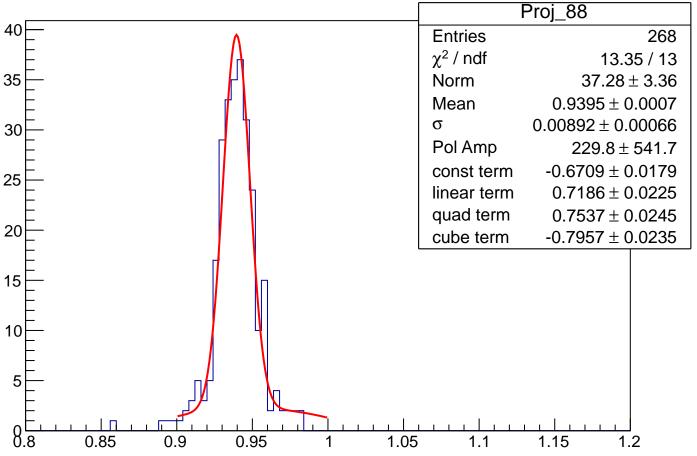
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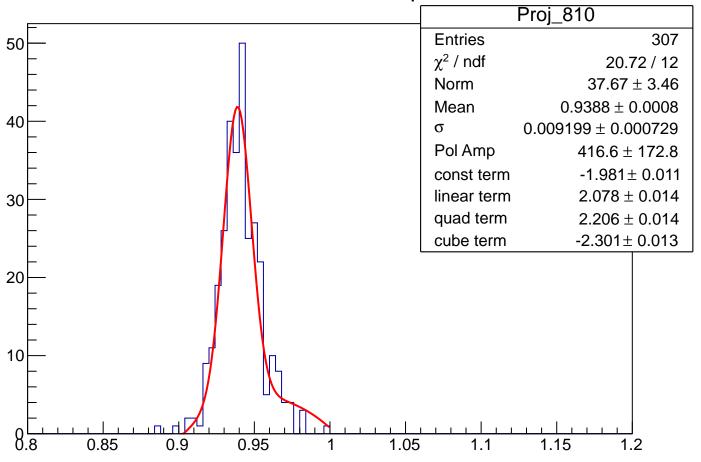
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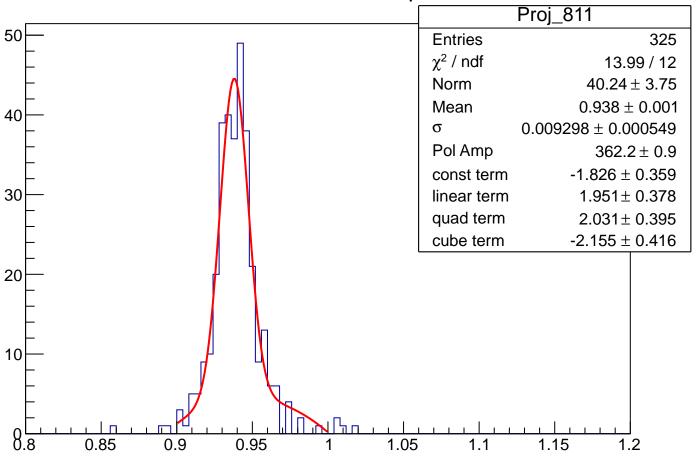
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PhiThetaMassPip Proj\_89 **Entries** 318 45  $\chi^2$  / ndf 13.85 / 13 Norm  $39.11 \pm 3.36$ 40 Mean  $0.9386 \pm 0.0008$ σ  $0.01005 \pm 0.00080$ 35 Pol Amp  $289 \pm 190.8$ const term  $-1.837 \pm 0.014$ 30 linear term  $1.96 \pm 0.02$ quad term  $2.015 \pm 0.018$ 25 cube term  $-2.136 \pm 0.016$ 20 15 10 5 0.8 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2





PhiThetaMassPip Proj\_812 **Entries** 335  $\chi^2$  / ndf 6.279 / 1440 Norm  $39.17 \pm 3.19$ Mean  $0.9363 \pm 0.0008$ 35 σ  $0.01153 \pm 0.00071$ Pol Amp  $365.5 \pm 0.7$ 30 const term  $-1.527 \pm 0.279$ linear term  $1.659 \pm 0.298$ 25 quad term  $1.653 \pm 0.299$ cube term  $-1.788 \pm 0.320$ 20 15 10 5 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_813 **Entries** 383 50  $\chi^2$  / ndf 11.9 / 12 Norm  $47.81 \pm 3.57$ Mean  $0.9348 \pm 0.0007$ σ  $0.01065 \pm 0.00065$ 40 Pol Amp  $364.1 \pm 0.8$ const term  $-0.9559 \pm 0.2032$ linear term  $1.059 \pm 0.206$ 30 quad term  $1.027 \pm 0.208$ cube term  $-1.13 \pm 0.21$ 20 10

1.05

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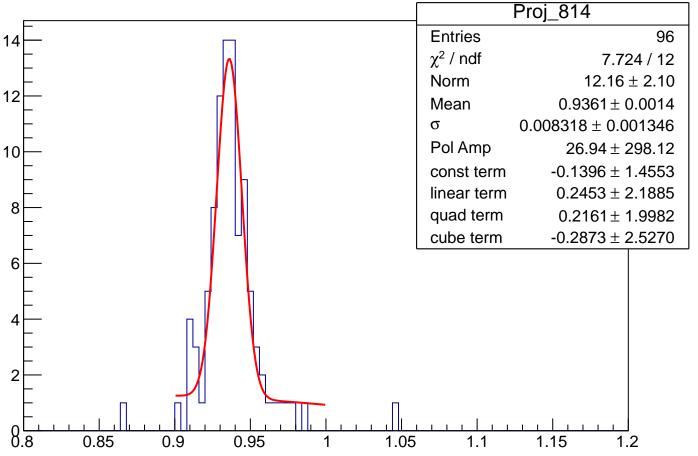
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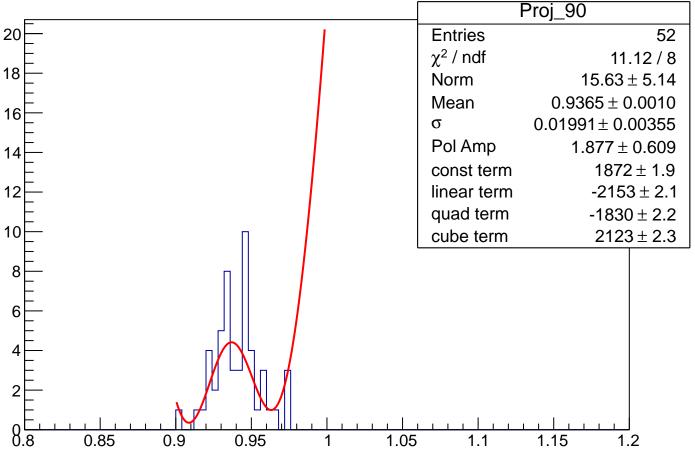
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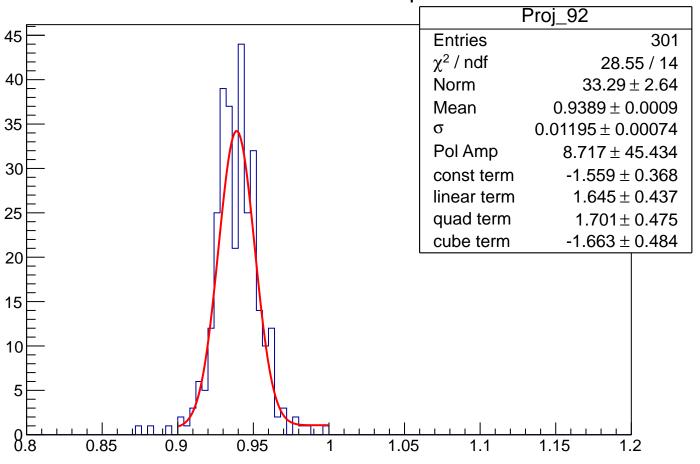
0.85

0.9





PhiThetaMassPip Proj\_91 **Entries** 292  $\chi^2$  / ndf 6.781/935 Norm  $35.08 \pm 2.85$ Mean  $0.9371 \pm 0.0011$ 30 σ  $0.01187 \pm 0.00069$ Pol Amp  $5.615 \pm 31.705$ 25 const term  $-4.113 \pm 9.653$ linear term  $0.853 \pm 3.897$ quad term  $2.917 \pm 3.666$ 20 cube term  $1.172 \pm 13.286$ 15 10 5 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2



PhiThetaMassPip Proj\_93 **Entries** 266  $\chi^2$  / ndf 15.69 / 10 40 Norm  $35.2 \pm 3.1$  $0.9374 \pm 0.0007$ Mean 35 σ  $0.01026 \pm 0.00089$ Pol Amp  $3.752 \pm 30.214$ 30 const term  $-1.335 \pm 1.246$ linear term  $0.8677 \pm 0.7996$ 25 quad term  $1.294 \pm 0.670$ cube term  $-0.3585 \pm 3.3929$ 20 15 10 5

1.05

1.1

1.15

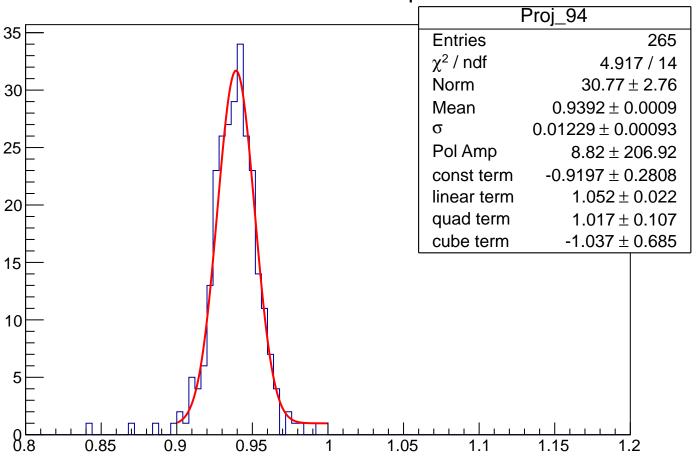
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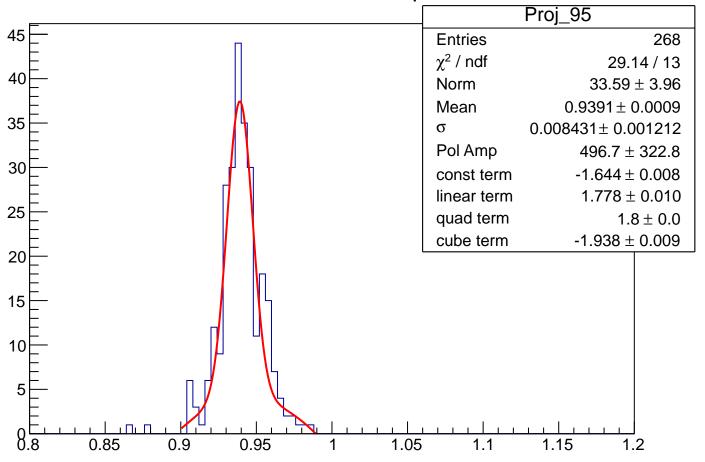
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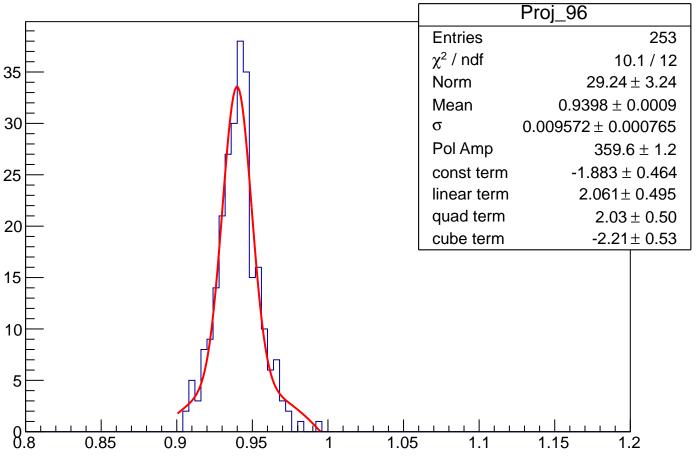
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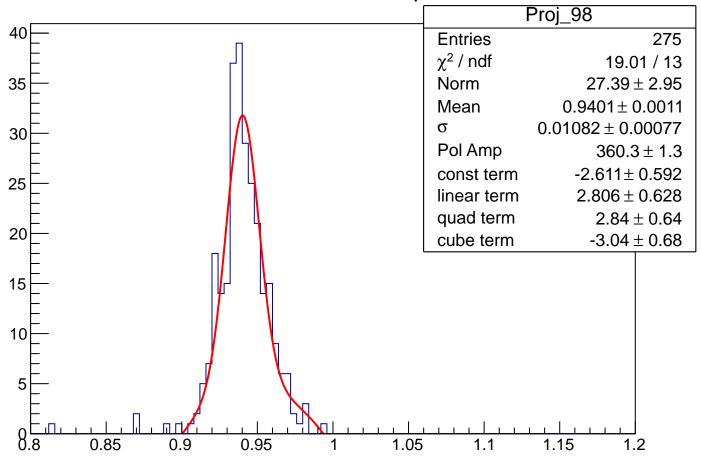
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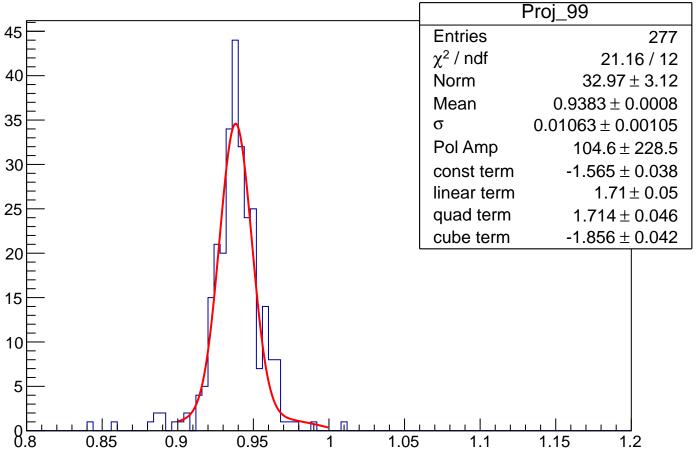


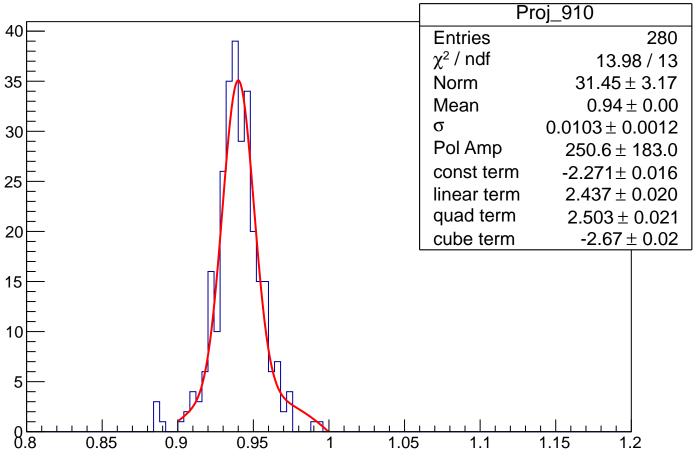




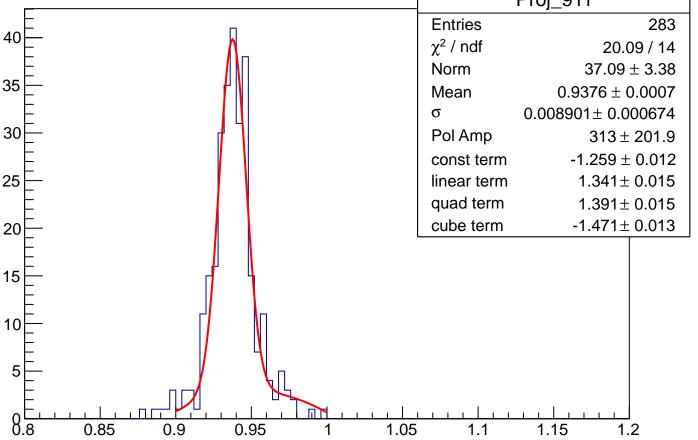
PhiThetaMassPip Proj\_97 **Entries** 234  $\chi^2$  / ndf 20.43 / 14 30 Norm  $25.05 \pm 2.41$  $0.9428 \pm 0.0010$ Mean 25 σ  $0.0115 \pm 0.0010$ Pol Amp  $1.039 \pm 28.573$ const term  $2.275 \pm 8.336$ 20  $3.133 \pm 2.555$ linear term quad term  $0.6679 \pm 2.5845$ cube term  $-5.394 \pm 6.907$ 15 10 5 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2







PhiThetaMassPip Proj\_911 **Entries** 283  $\chi^2$  / ndf 20.09 / 14 Norm  $37.09 \pm 3.38$  $0.9376 \pm 0.0007$ Mean σ  $0.008901 \pm 0.000674$ Pol Amp  $313 \pm 201.9$ const term  $-1.259 \pm 0.012$ linear term  $1.341 \pm 0.015$ quad term  $1.391 \pm 0.015$ cube term  $-1.471 \pm 0.013$ 



PhiThetaMassPip Proj\_912 **Entries** 285  $\chi^2$  / ndf 19.9 / 12 35 Norm  $33.34 \pm 3.44$ Mean  $0.9367 \pm 0.0009$ 30 σ  $0.01008 \pm 0.00117$ Pol Amp  $341.3 \pm 250.1$ const term  $-1.508 \pm 0.013$ 25 linear term  $1.648 \pm 0.015$ quad term  $1.616 \pm 0.016$ 20 cube term  $-1.757 \pm 0.015$ 15 10 5

1.05

1.1

1.15

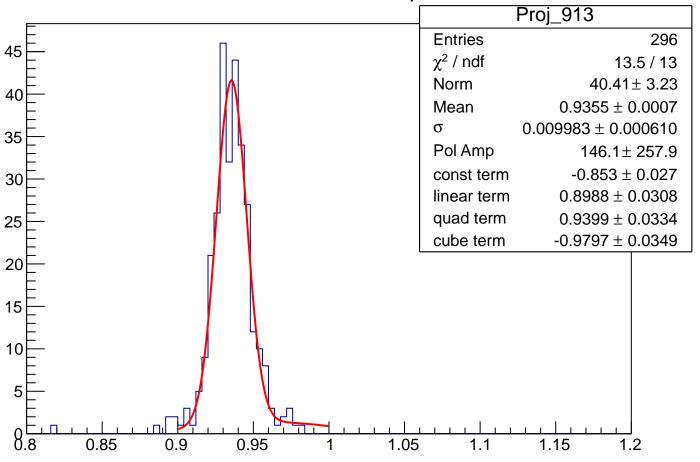
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0.9

0.95



PhiThetaMassPip Proj\_914 **Entries** 80 14  $\chi^2$  / ndf 19.19 / 10 Norm  $5989 \pm 40021.0$ 12  $0.9393 \pm 0.0003$ Mean σ  $0.000359 \pm 0.000111$ Pol Amp  $351.8 \pm 119.1$ 10 const term  $-1.367 \pm 0.009$ linear term  $1.493 \pm 0.011$ 8 quad term  $1.491 \pm 0.011$ cube term  $-1.618 \pm 0.010$ 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_100 **Entries** 27  $\chi^2$  / ndf 4.063 / 4Norm  $68.74 \pm 46.07$ 3.5  $0.8962 \pm 0.0084$ Mean σ  $-0.106 \pm 0.017$ 3 Pol Amp  $87.06 \pm 46.46$ const term  $-1.305 \pm 0.380$ 2.5 linear term  $-0.6368 \pm 0.1499$ quad term  $0.2015 \pm 0.1373$ 2 cube term  $1.238 \pm 0.455$ 1.5 0.5 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_101 **Entries** 211  $\chi^2$  / ndf 7.283 / 14 25  $24.3 \pm 2.7$ Norm Mean  $0.938 \pm 0.001$  $0.01043 \pm 0.00119$ σ 20 Pol Amp  $88.16 \pm 94.36$ const term  $-1.269 \pm 0.049$ linear term  $1.464 \pm 0.051$ 15 quad term  $1.369 \pm 0.051$ cube term  $-1.554 \pm 0.050$ 10 5 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_102 **Entries** 204 25  $\chi^2$  / ndf 7.099 / 13 Norm  $22.38 \pm 2.61$ Mean  $0.9384 \pm 0.0012$ 20 σ  $0.01039 \pm 0.00109$ Pol Amp  $216.3 \pm 131.3$ const term  $-2.421 \pm 0.018$ linear term  $2.574 \pm 0.022$ 15 quad term  $2.639 \pm 0.023$ cube term  $-2.79 \pm 0.02$ 10 5 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_103 **Entries** 210 30  $\chi^2$  / ndf 13.54 / 13 Norm  $22.56 \pm 2.64$ Mean  $0.9361 \pm 0.0012$ 25 σ  $0.01163 \pm 0.00126$ Pol Amp  $124.9 \pm 212.3$ const term  $-2.381 \pm 0.031$ 20 linear term  $2.556 \pm 0.035$ quad term  $2.624 \pm 0.037$ cube term  $-2.802 \pm 0.038$ 15 10 5 8.8

1.05

1.1

1.15

1.2

0.85

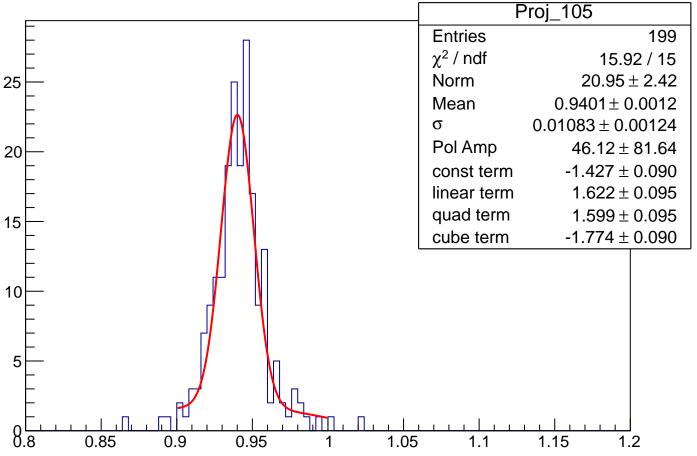
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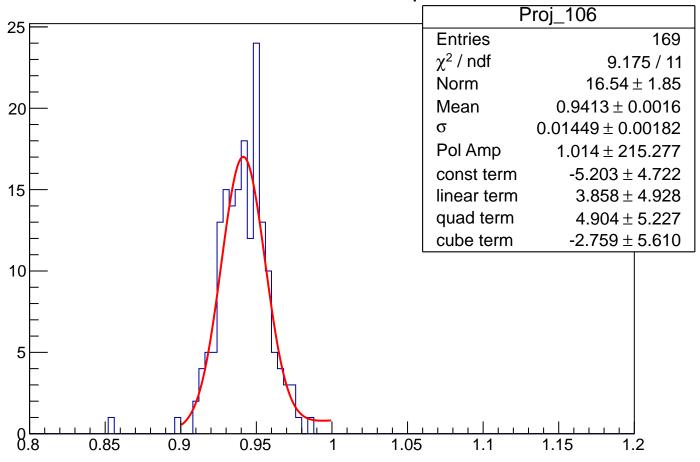
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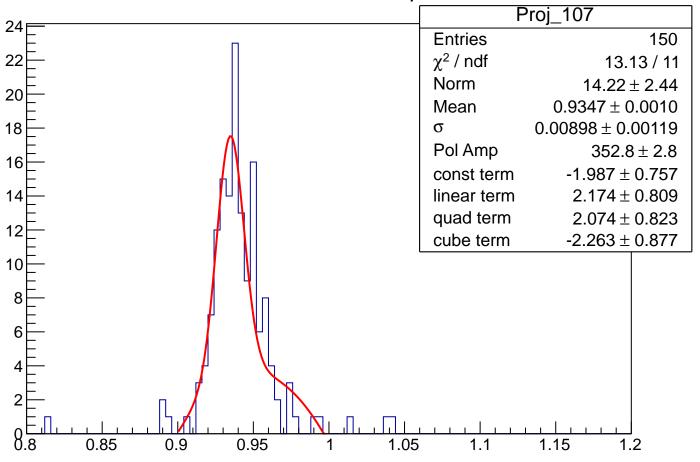
PhiThetaMassPip Proj\_104 **Entries** 187 25  $\chi^2$  / ndf 11.15 / 13 Norm  $22.14 \pm 2.73$ Mean  $0.9367 \pm 0.0007$ 20 σ  $0.00902 \pm 0.00076$ Pol Amp  $360.1 \pm 1.6$ const term  $-1.037 \pm 0.571$ linear term  $1.14 \pm 0.61$ 15 quad term  $1.092 \pm 0.614$ cube term  $-1.194 \pm 0.656$ 10 5 8.8 0.85 0.9 0.95 1.05 1.15

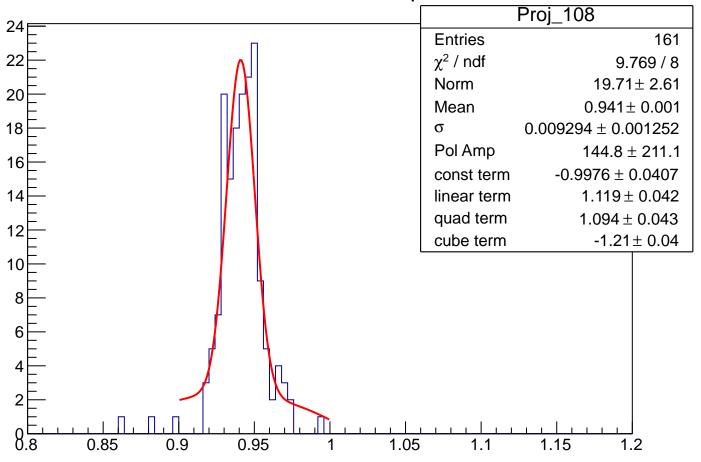
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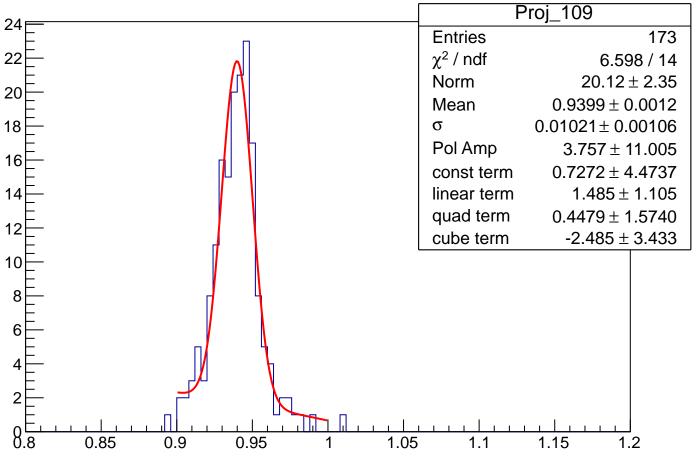
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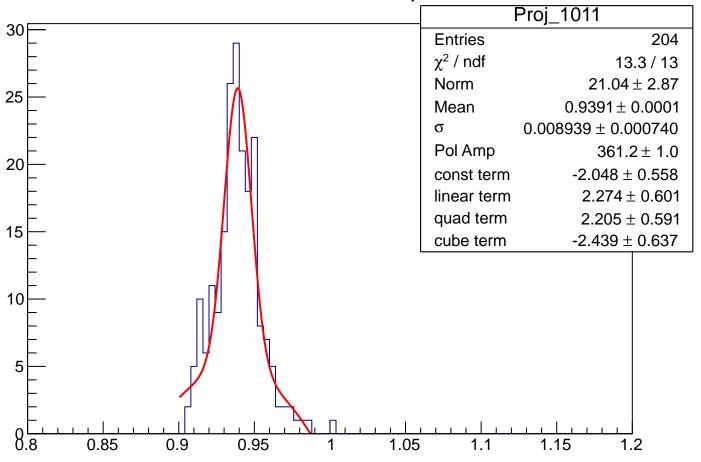


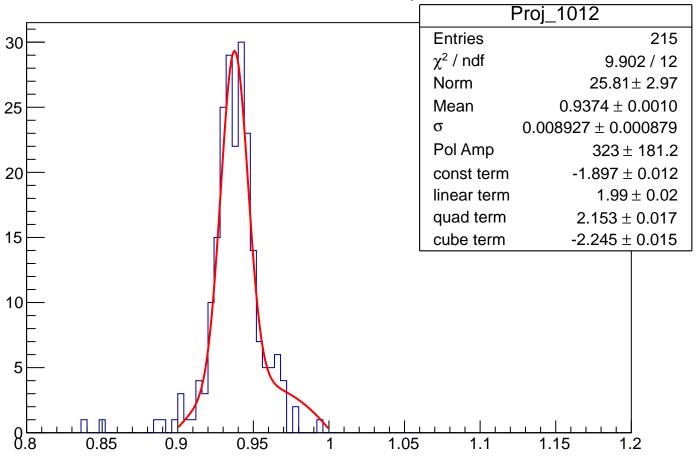


PhiThetaMassPip Proj\_1010 **Entries** 172 22  $\chi^2$  / ndf 11.4 / 12 20 Norm  $17.68 \pm 1.88$  $0.9399 \pm 0.0014$ Mean 18 σ  $0.01296 \pm 0.00138$ 16 Pol Amp  $1.988 \pm 39.837$ const term  $-3.083 \pm 4.975$ 14 linear term  $2.144 \pm 1.807$ quad term  $2.942 \pm 2.301$ 12 cube term  $-1.5 \pm 7.4$ 10 8 6 4 2 0.85 0.9 0.95 1.05 1.15

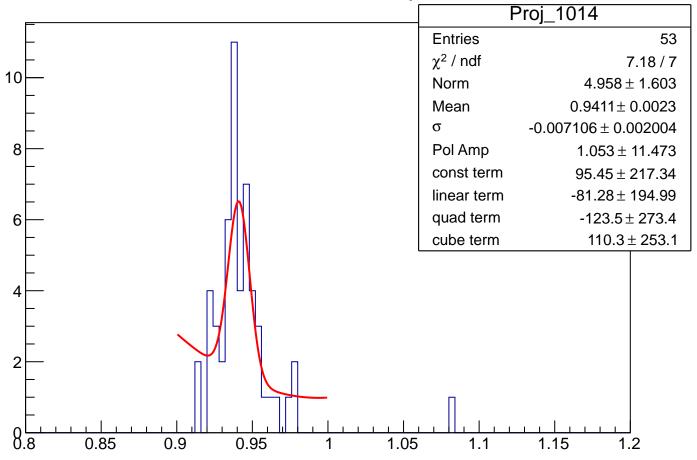
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PhiThetaMassPip Proj\_1013 Entries 234 30  $\chi^2$  / ndf 7.428 / 11 Norm  $30.32 \pm 2.50$ Mean  $0.9379 \pm 0.0009$ 25 σ  $0.01111 \pm 0.00079$ Pol Amp  $1.01 \pm 261.84$ const term  $-1.339 \pm 1.246$ 20 linear term  $1.781 \pm 0.350$ quad term  $1.9 \pm 0.5$ cube term  $-1.4 \pm 2.0$ 15 10 5 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

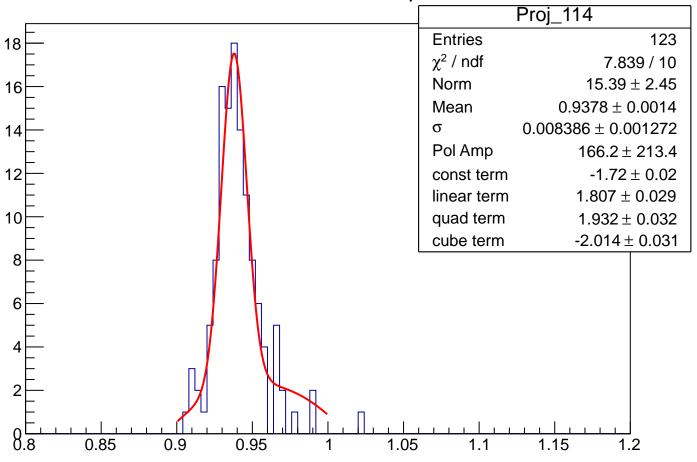


PhiThetaMassPip Proj\_110 **Entries** 21  $\chi^2$  / ndf 2.87/3Norm  $66.5 \pm 4.0$ 3.5  $0.9401 \pm 0.0069$ Mean σ  $-0.1037 \pm 0.0361$ 3 Pol Amp  $83.82 \pm 5.24$ const term  $-0.2443 \pm 0.0477$ 2.5  $-0.44 \pm 0.05$ linear term quad term  $-0.3143 \pm 0.0549$ 2 cube term  $0.2017 \pm 0.0587$ 1.5 0.5 8.8 0.85 0.9 0.95 1.05 1.15 1.2

PhiThetaMassPip Proj\_111 25 **Entries** 137  $\chi^2$  / ndf 12.78 / 8 Norm  $14 \pm 2.1$ Mean  $0.9391 \pm 0.0017$ 20 σ  $0.01019 \pm 0.00184$ Pol Amp  $63.97 \pm 105.88$ const term  $-0.1008 \pm 0.0928$ 15 linear term  $0.2355 \pm 0.0967$ quad term  $0.1878 \pm 0.0993$  $-0.3094 \pm 0.1006$ cube term 10 5 8.8 0.85 0.9 0.95 1.05 1.15

PhiThetaMassPip Proj\_112 **Entries** 131 18  $\chi^2$  / ndf 2.44 / 10 Norm  $17.18 \pm 2.07$ 16  $0.9392 \pm 0.0015$ Mean σ  $0.0108 \pm 0.0013$ 14 Pol Amp  $80.96 \pm 121.32$ 12 const term  $-1.798 \pm 0.053$  $1.853 \pm 0.056$ linear term quad term 10  $1.891 \pm 0.058$  $-1.935 \pm 0.060$ cube term 8 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_113 **Entries** 126 16  $\chi^2$  / ndf 31.56 / 8 Norm  $13.94 \pm 0.61$ 14 Mean  $0.937 \pm 0.000$ σ  $0.001507 \pm 1.965764$ 12 Pol Amp  $36.35 \pm 2.12$ const term  $0.282 \pm 0.000$ 10 linear term  $0.1195 \pm 0.0002$ quad term  $-0.05632 \pm 0.00022$  $-0.2503 \pm 0.0002$ 8 cube term 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

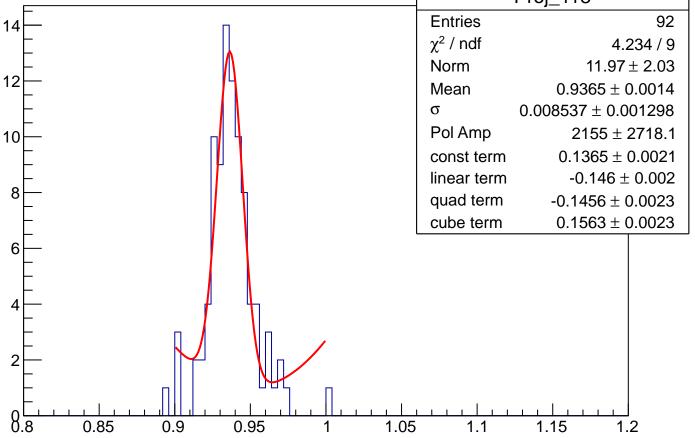


PhiThetaMassPip Proj\_115 **Entries** 92  $\chi^2$  / ndf 16.11 / 10 12 Norm  $11.09 \pm 2.27$ Mean  $0.9396 \pm 0.0000$ σ  $0.005255 \pm 0.000005$ 10 Pol Amp  $353 \pm 0.0$ const term  $0.03744 \pm 0.01232$ 8  $-0.009124 \pm 0.004230$ linear term quad term  $-0.02239 \pm 0.00449$  $-0.002906 \pm 0.013493$ cube term 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_116 **Entries** 107 16  $\chi^2$  / ndf 18.49 / 11 Norm  $11.18 \pm 2.36$ 14 Mean  $0.9382 \pm 0.0020$ σ  $0.009516 \pm 0.002655$ 12 Pol Amp  $177 \pm 542.1$ const term  $0.02682 \pm 0.02167$ 10 linear term  $-0.01512 \pm 0.02250$ quad term  $-0.0195 \pm 0.0227$ 8 cube term  $0.0135 \pm 0.0221$ 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_117 **Entries** 88  $\chi^2$  / ndf 22.22 / 9 14 Norm  $5450 \pm 40139.3$ Mean  $0.9408 \pm 0.0004$ 12 σ  $-0.0003302 \pm 0.0000873$ Pol Amp  $447.2 \pm 119.6$ 10 const term  $-1.603 \pm 0.007$  $1.71 \pm 0.01$ linear term quad term  $1.781 \pm 0.010$ 8  $-1.889 \pm 0.009$ cube term 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_118 **Entries** 92  $\chi^2$  / ndf 4.234 / 9 Norm  $11.97 \pm 2.03$  $0.9365 \pm 0.0014$ Mean σ  $0.008537 \pm 0.001298$ Pol Amp  $2155 \pm 2718.1$ const term  $0.1365 \pm 0.0021$ linear term  $-0.146 \pm 0.002$ quad term  $-0.1456 \pm 0.0023$ cube term  $0.1563 \pm 0.0023$ 



PhiThetaMassPip Proj\_119 **Entries** 121  $\chi^2$  / ndf 10.38 / 12 14 Norm  $11.23 \pm 1.83$ Mean  $0.9397 \pm 0.0019$ 12 σ  $0.01088 \pm 0.00155$ Pol Amp 63.91 ± 115.70 10 const term  $-2.179 \pm 0.059$ linear term  $2.281 \pm 0.069$ quad term  $2.44 \pm 0.08$ 8 cube term  $-2.523 \pm 0.078$ 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_1110 **Entries** 115 18  $\chi^2$  / ndf 6.181 / 11 Norm  $12.32 \pm 1.89$ 16 Mean  $0.94 \pm 0.00$ σ  $0.01076 \pm 0.00176$ 14 Pol Amp  $19.57 \pm 47.79$ 12 const term  $-1.502 \pm 0.219$ linear term  $1.755 \pm 0.230$ quad term 10  $1.741 \pm 0.231$ cube term  $-1.95 \pm 0.22$ 8 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_1111 **Entries** 123 18  $\chi^2$  / ndf 11.38 / 10 Norm  $11.89 \pm 1.82$ 16  $0.9408 \pm 0.0017$ Mean σ  $0.0107 \pm 0.0018$ 14 Pol Amp  $2.085 \pm 7.514$ 12 const term  $-2.228 \pm 2.131$  $2.775 \pm 0.660$ linear term quad term 10  $2.971 \pm 0.726$  $-2.623 \pm 2.472$ cube term 8 6 4 2 8.8 0.85 0.9 0.95 1.05 1.1 1.15 1.2

PhiThetaMassPip Proj\_1112 18 **Entries** 119  $\chi^2$  / ndf 6.424/916 Norm  $12.54 \pm 3.00$  $0.9412 \pm 0.0001$ Mean 14 σ  $0.004901 \pm 0.000482$ Pol Amp  $446.7 \pm 2.3$ 12 const term  $-3.006 \pm 0.696$ linear term  $3.169 \pm 0.737$ 10 quad term  $3.49 \pm 0.81$ cube term  $-3.665 \pm 0.855$ 8 6 4 2 8.8 0.95 0.85 0.9 1.05 1.1 1.15 1.2

