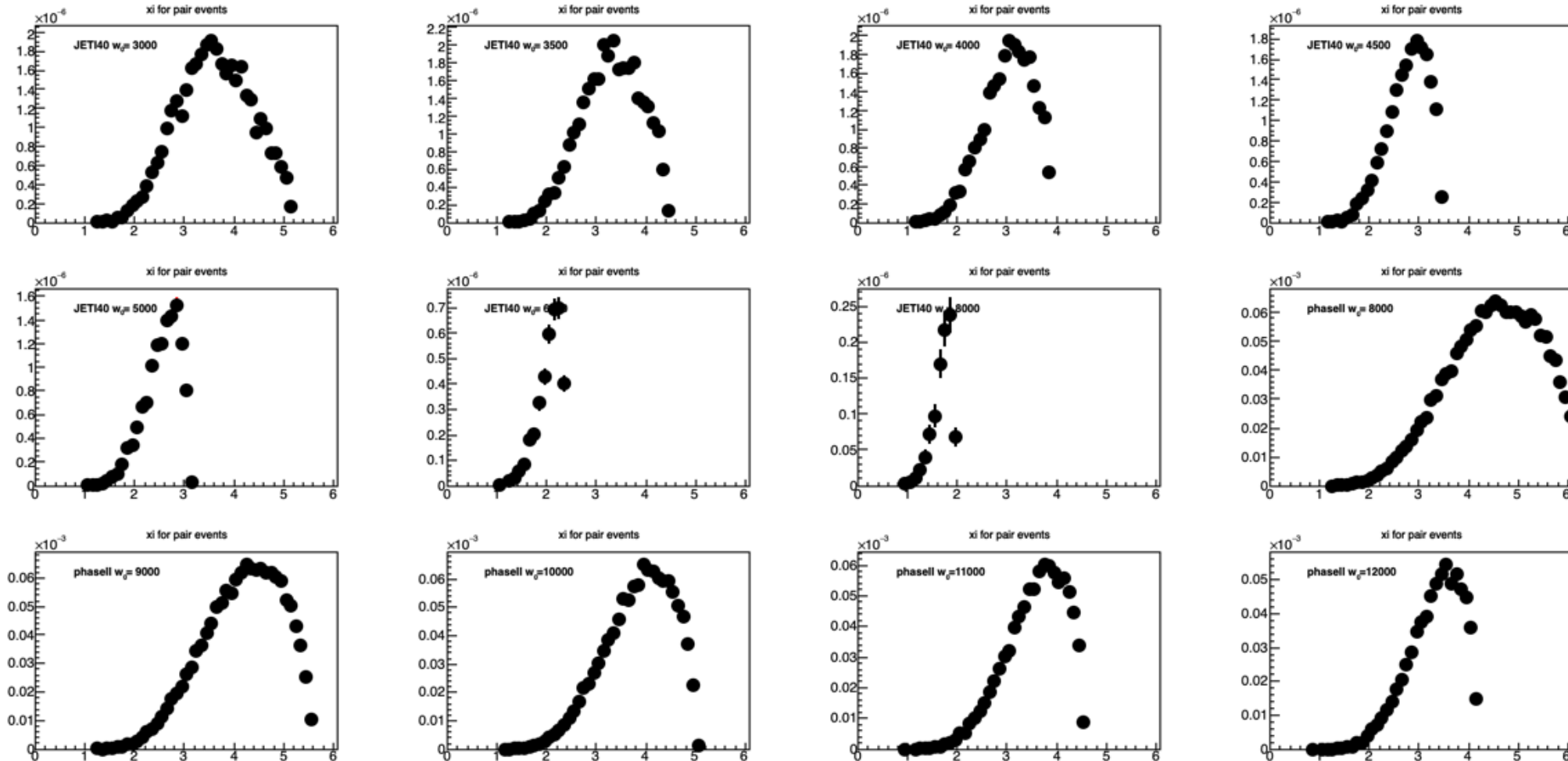


# Plots of new gamma-laser files

B. Heinemann

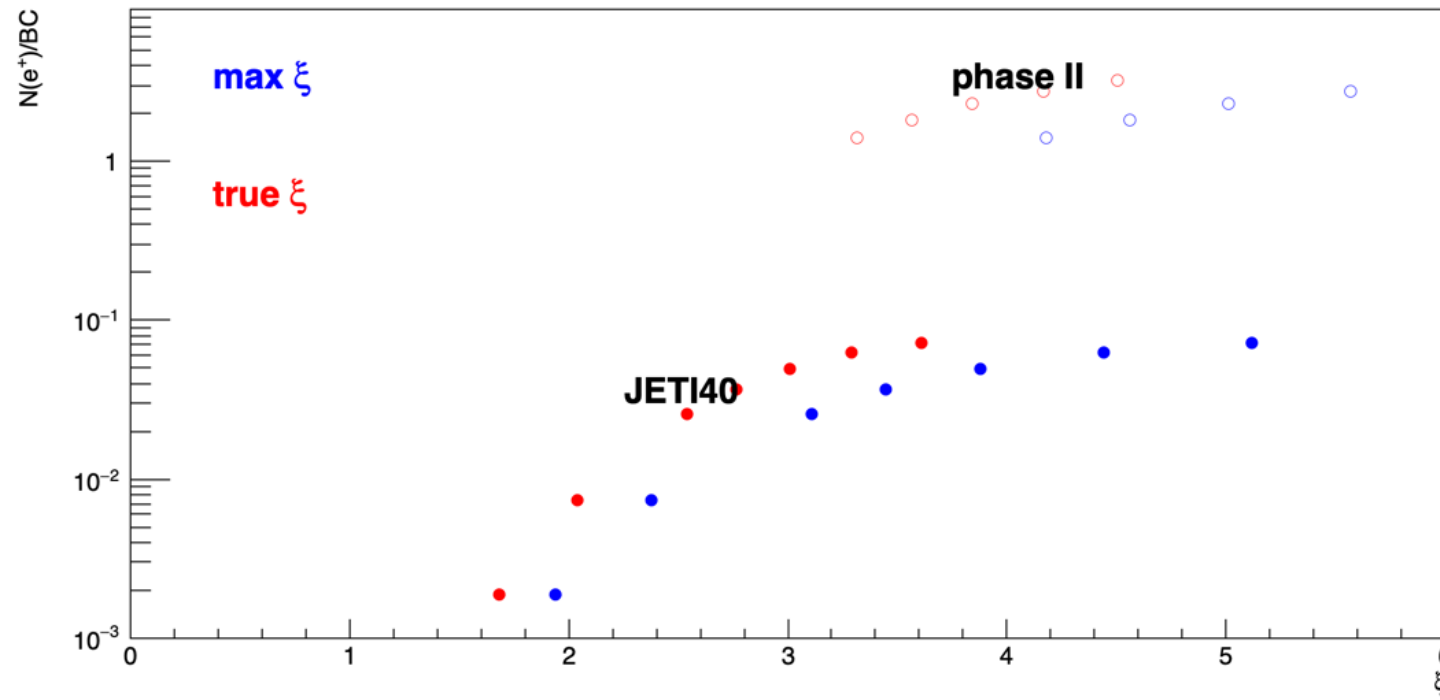
Oct. 20<sup>th</sup> 2020

# New BPPP files by Tony (thanks!)



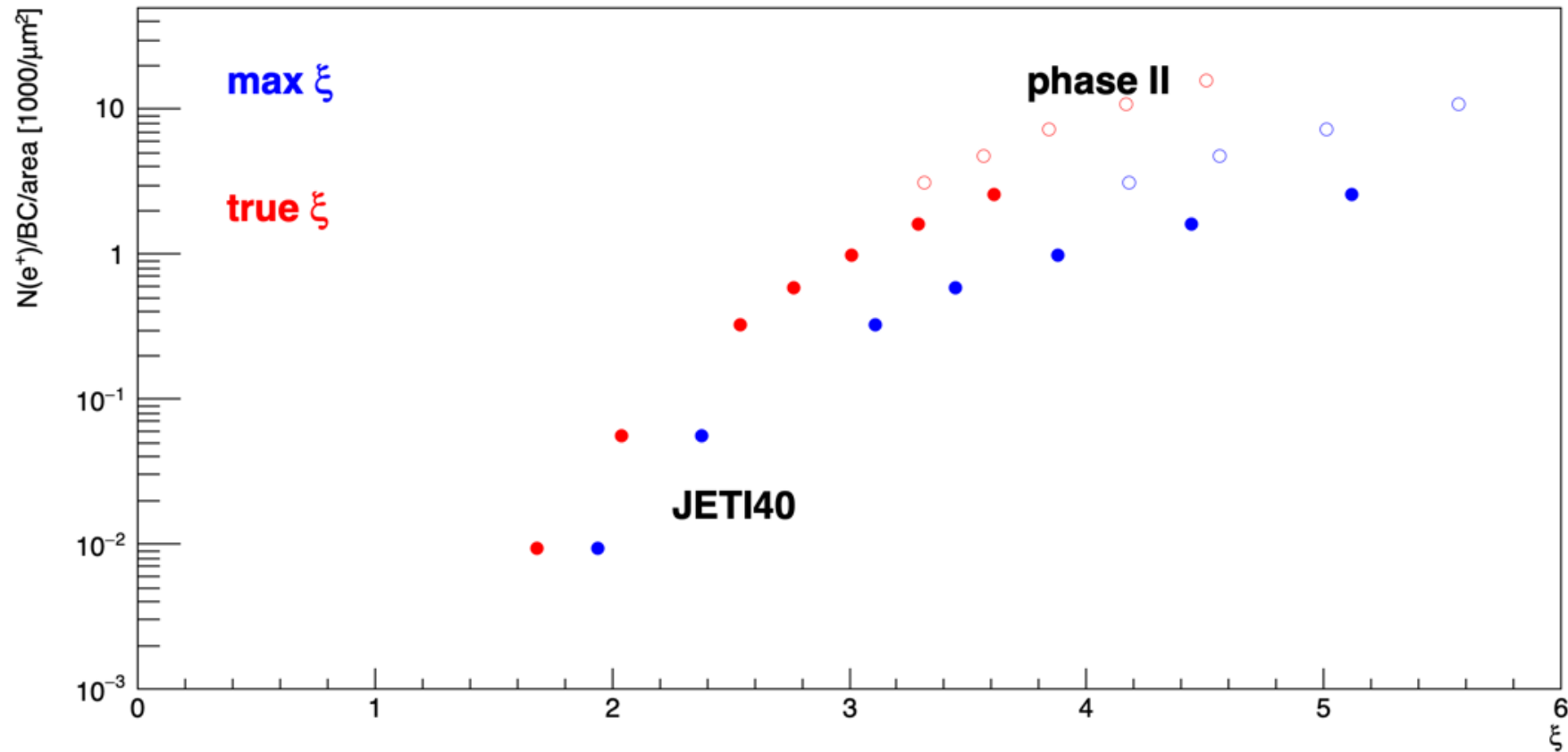
Xi distribution looks much healthier => looks good!

# Positron rate vs $\xi$



- Rather similar to previous files
- Large difference between phase II and JETI40 => normalize by area ( $\pi \cdot R^2$ )
- Red shows the mean of the true underlying  $\xi$  distribution

# Positron rates normalized by area



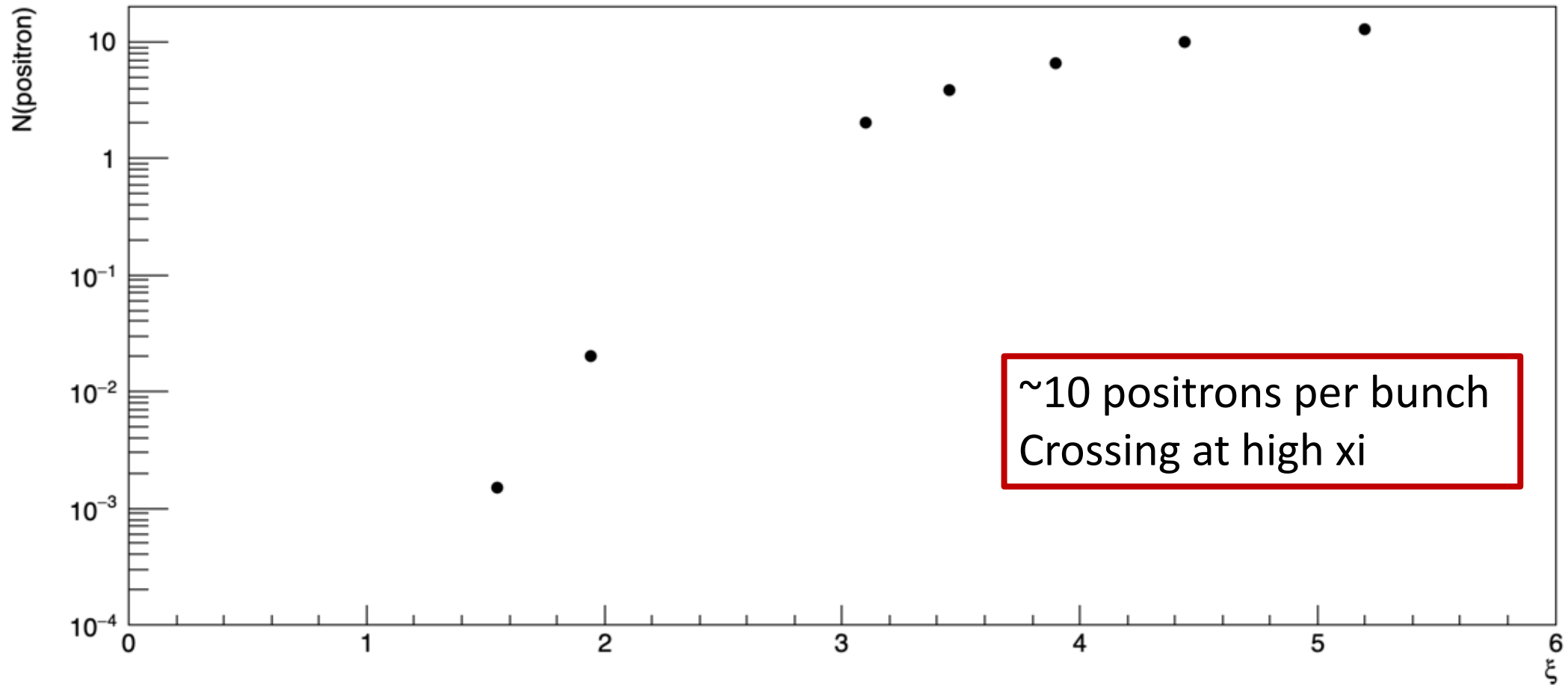
- JETI40 and Phase II more consistent but not perfectly

# Positron rates normalized by area

w0=	3000,xi=	5.12,	nbc=2000:	N(posi)/BC=	0.0723,	area=	28.27,	N/areanorm=	0.514,	mean xi=	3.61
w0=	3500,xi=	4.44,	nbc=2000:	N(posi)/BC=	0.0625,	area=	38.48,	N/areanorm=	0.327,	mean xi=	3.29
w0=	4000,xi=	3.88,	nbc=2000:	N(posi)/BC=	0.0495,	area=	50.27,	N/areanorm=	0.198,	mean xi=	3.01
w0=	4500,xi=	3.45,	nbc=2000:	N(posi)/BC=	0.0370,	area=	63.62,	N/areanorm=	0.117,	mean xi=	2.77
w0=	5000,xi=	3.11,	nbc=2000:	N(posi)/BC=	0.0255,	area=	78.54,	N/areanorm=	0.065,	mean xi=	2.54
w0=	6500,xi=	2.38,	nbc=2000:	N(posi)/BC=	0.0074,	area=	132.73,	N/areanorm=	0.011,	mean xi=	2.04
w0=	8000,xi=	1.94,	nbc=2000:	N(posi)/BC=	0.0019,	area=	201.06,	N/areanorm=	0.002,	mean xi=	1.68
phase II											
w0=	8000,xi=	6.27,	nbc=2000:	N(posi)/BC=	3.2123,	area=	201.06,	N/areanorm=	3.212,	mean xi=	4.51
w0=	9000,xi=	5.57,	nbc=2000:	N(posi)/BC=	2.7581,	area=	254.47,	N/areanorm=	2.179,	mean xi=	4.17
w0=	10000,xi=	5.01,	nbc=2000:	N(posi)/BC=	2.2763,	area=	314.16,	N/areanorm=	1.457,	mean xi=	3.84
w0=	11000,xi=	4.56,	nbc=2000:	N(posi)/BC=	1.8231,	area=	380.13,	N/areanorm=	0.964,	mean xi=	3.57
w0=	12000,xi=	4.18,	nbc=2000:	N(posi)/BC=	1.4094,	area=	452.39,	N/areanorm=	0.626,	mean xi=	3.32

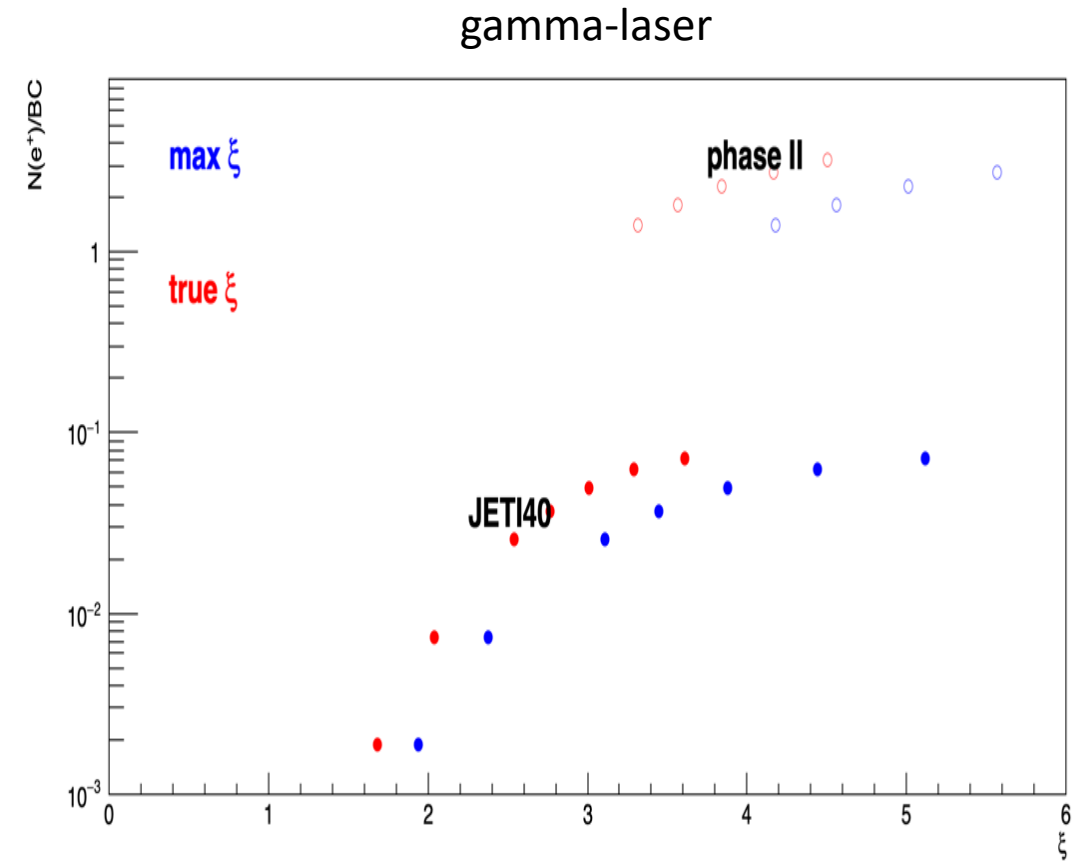
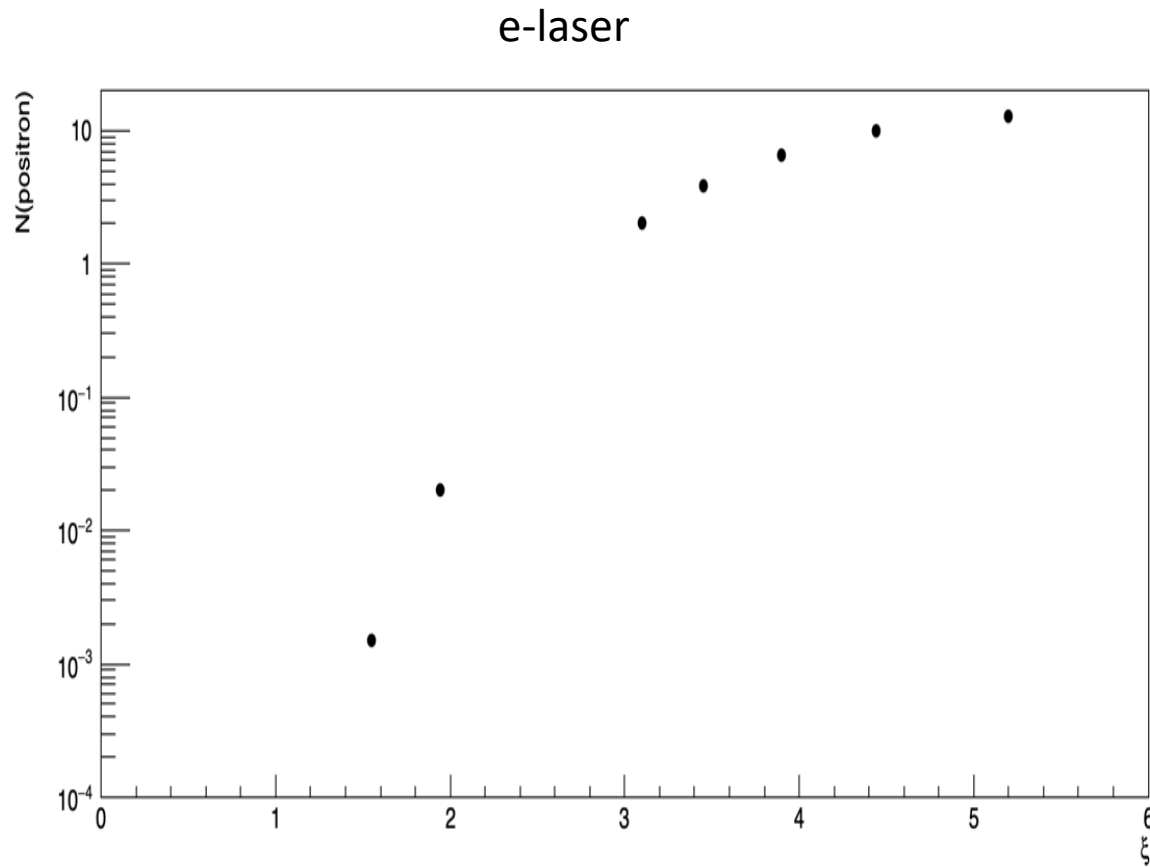
- Remaining discrepancy at same xi\_mean ~ factor 2
- Probably OK as xi-distribution is different.

# Positron rate vs nominal $\xi$ in e-laser JETI40



Rates are about 10x higher than in Brem setup!!!

# Positron rate: e-laser vs gamma-laser



If true I think we should reconsider doing the gamma-laser setup at all (at least for JETI40) !?