Detector configurations for FastSim test production

DGWG meeting
1 September 2009

- We implemented a set of detector configurations in FastSim

* We want to define a set of reference detector configurations in FastSim to test the performance of the benchmark channels
  * Based on input from subsystems
  * Subsystems will provide details necessary for definition of XML files
  * Configurations may evolve as studies are being done

from a past meeting

This table is a starting point for discussion

	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline

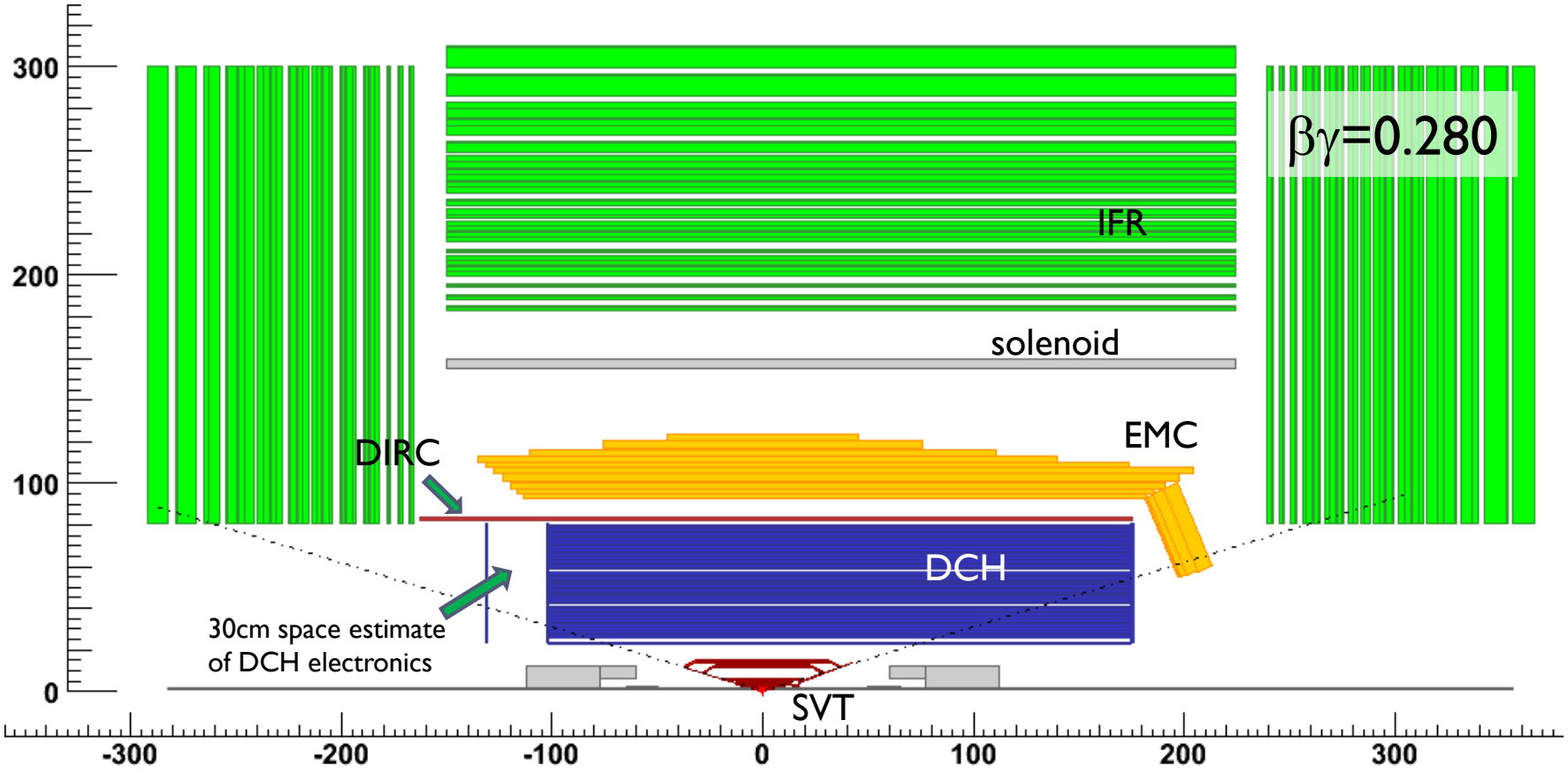
- We'll use some of these options in the FastSim test production planned to start this week (a first round of tests was performed in August)

- The pictures in the following slides have been produced directly from the XML files describing the detector in FastSim

#0

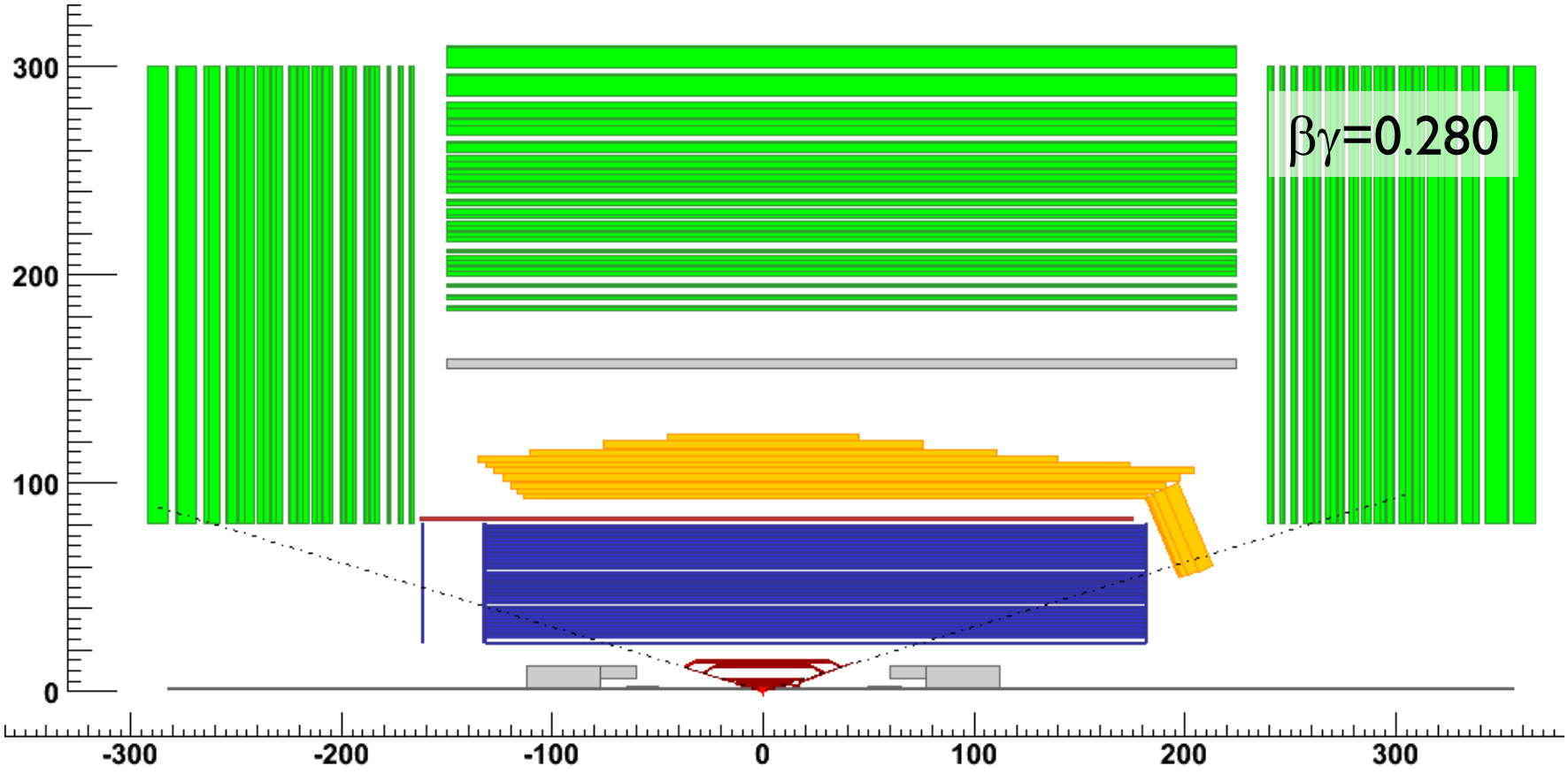
Not really an option. Only considered for comparison with other configurations.

	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



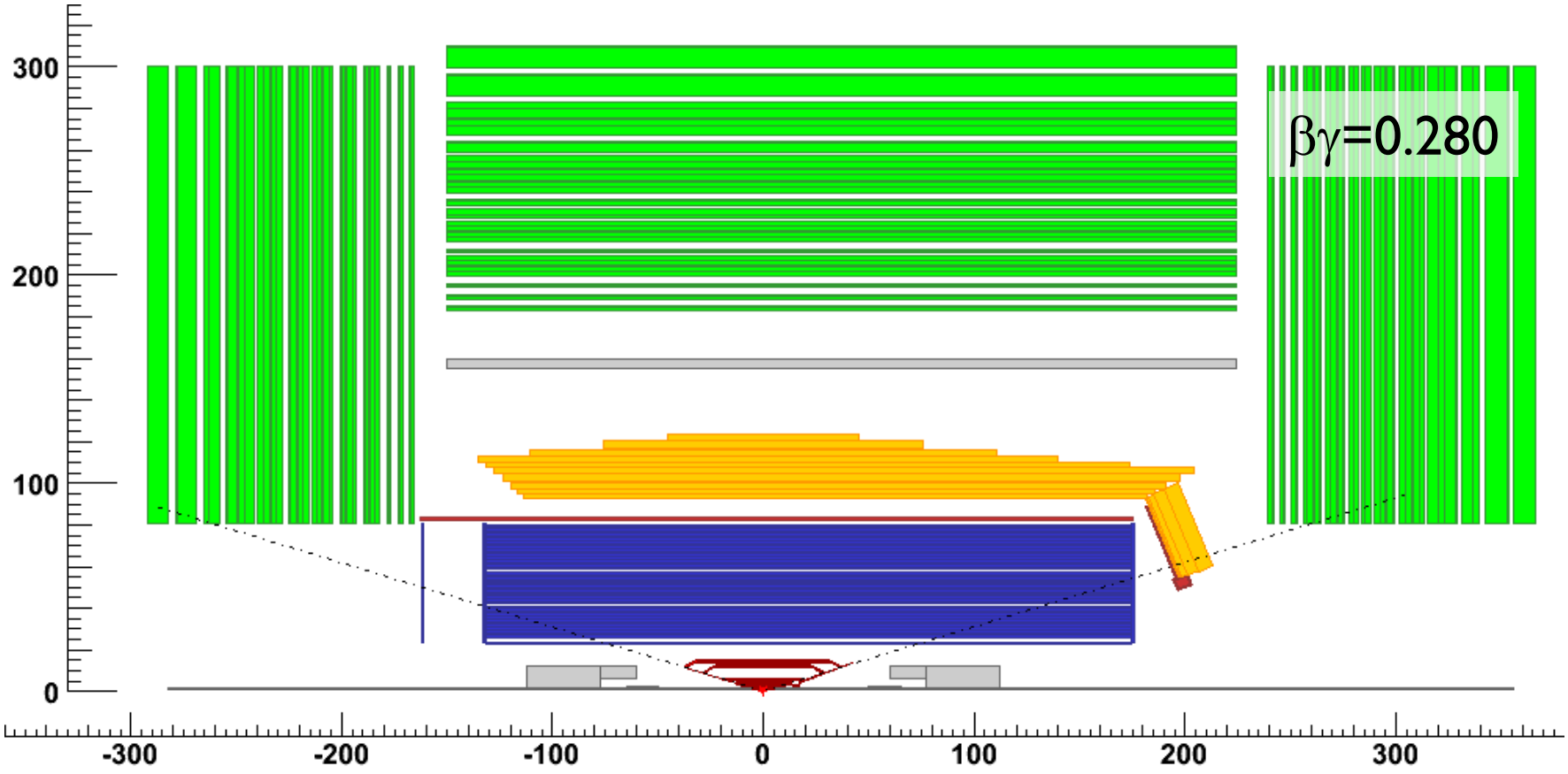
#1

	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



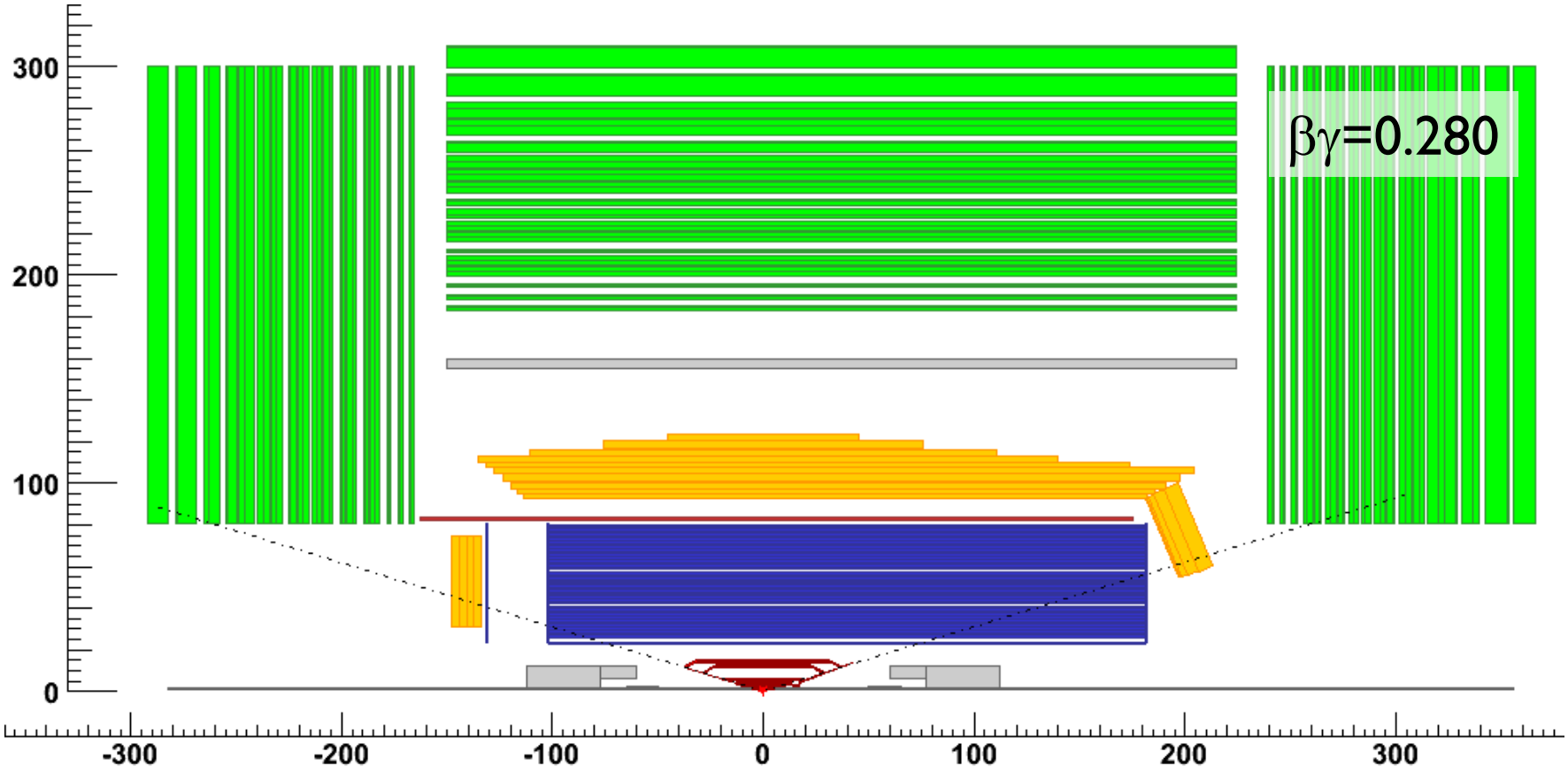
#2

	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



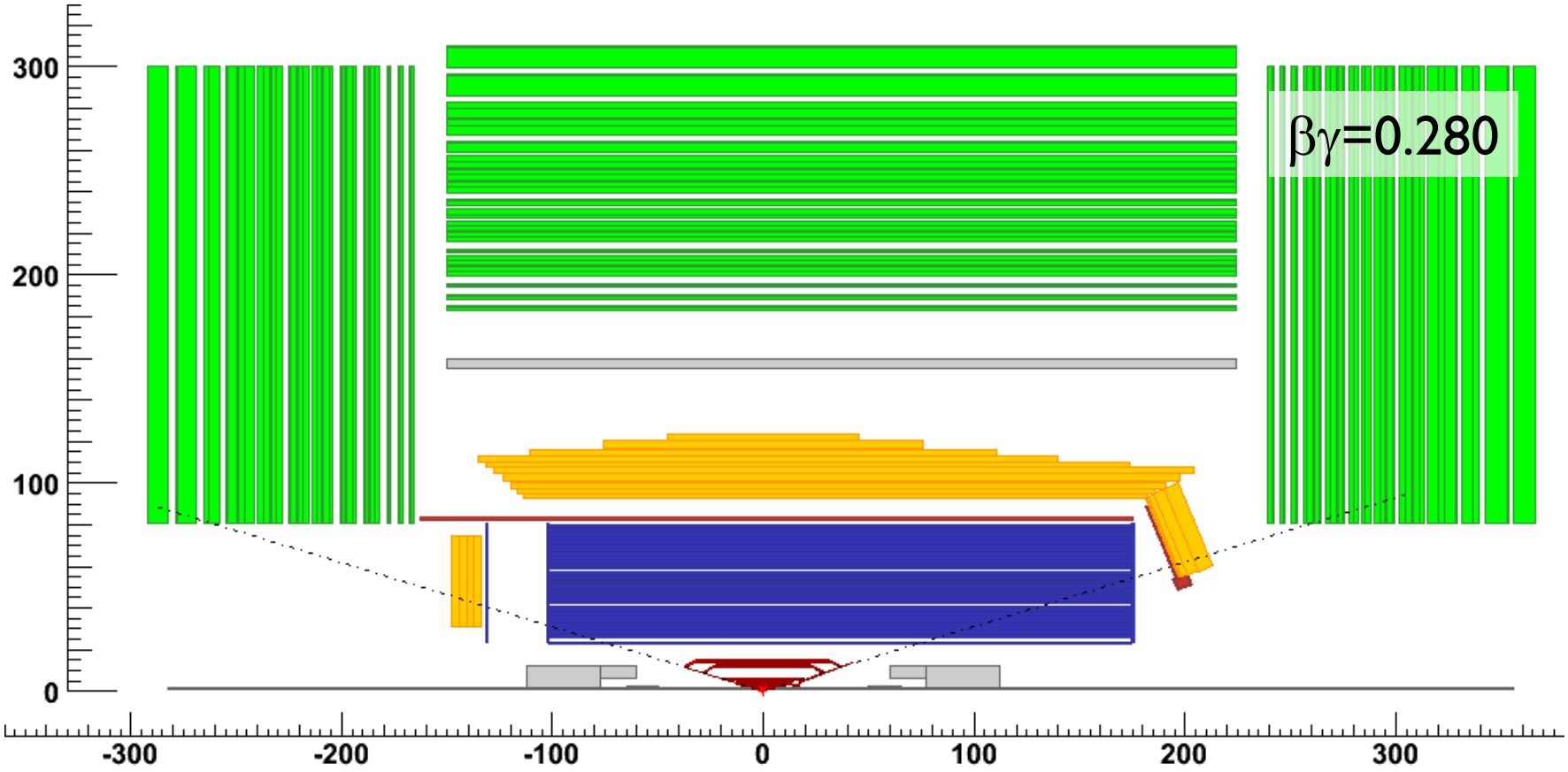
#3

	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



#4

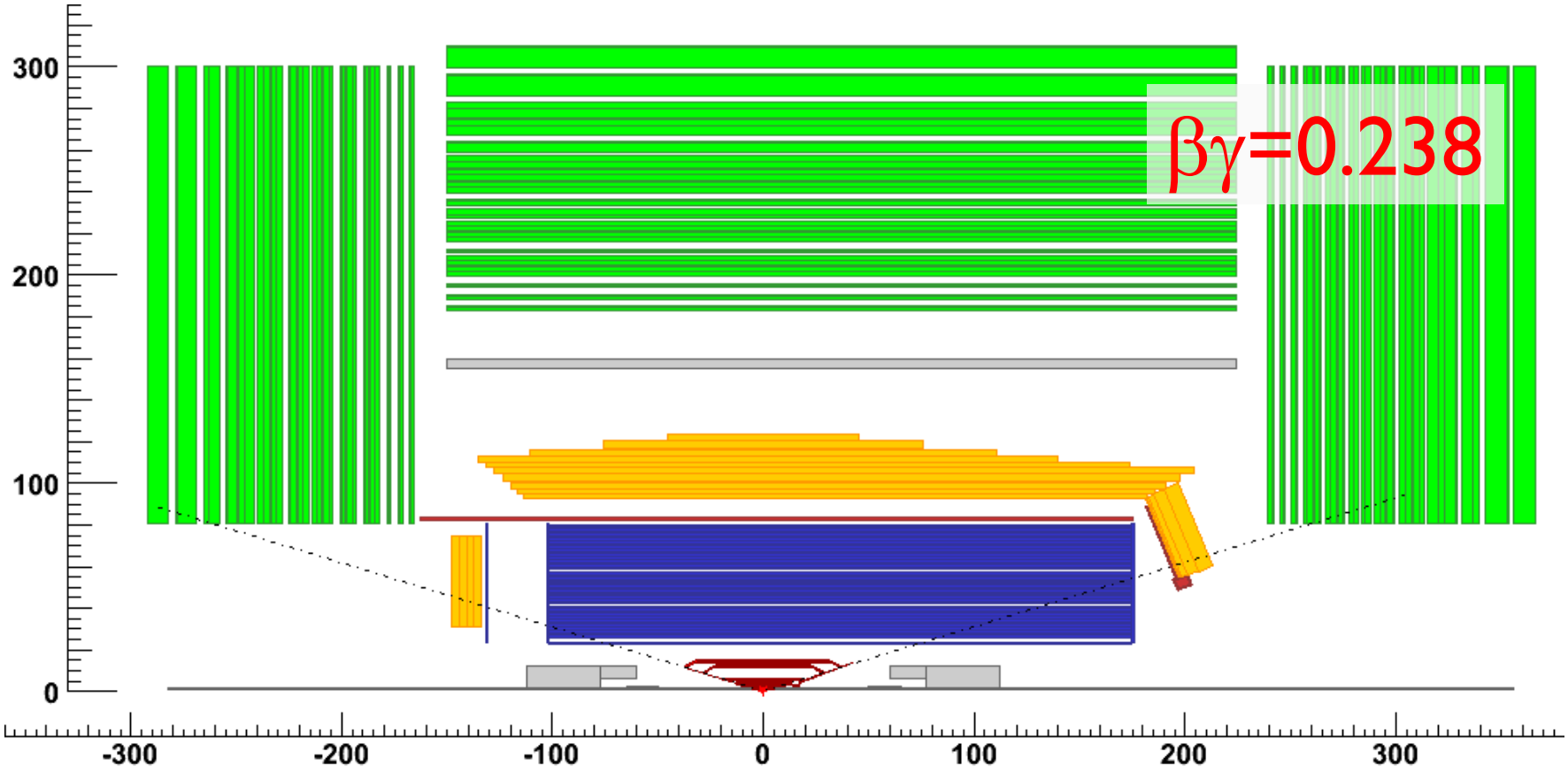
	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



#4a

as #4 but with reduced boost

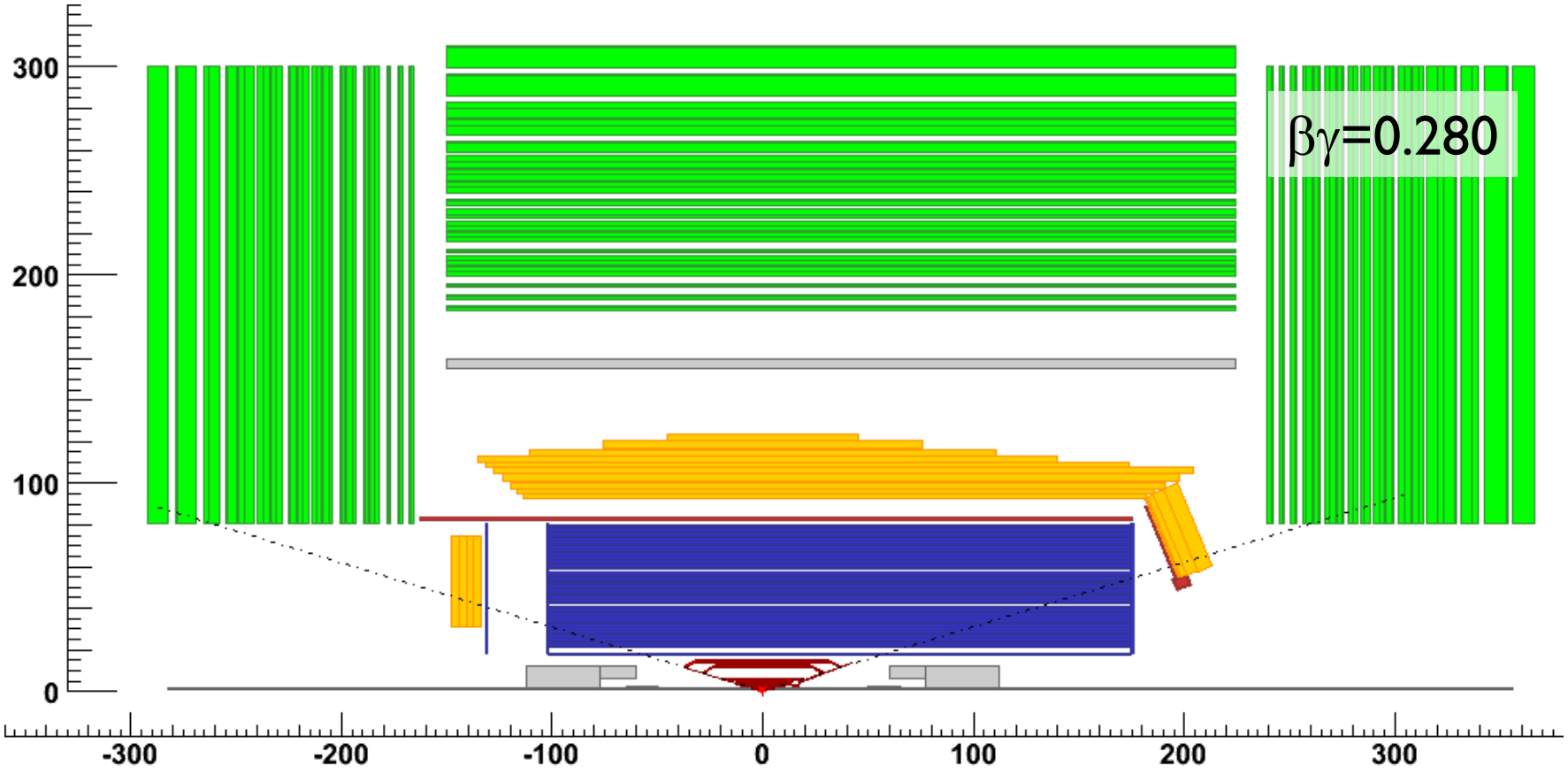
	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



#4b

as #4 but with reduced SVT-DCH transition radius

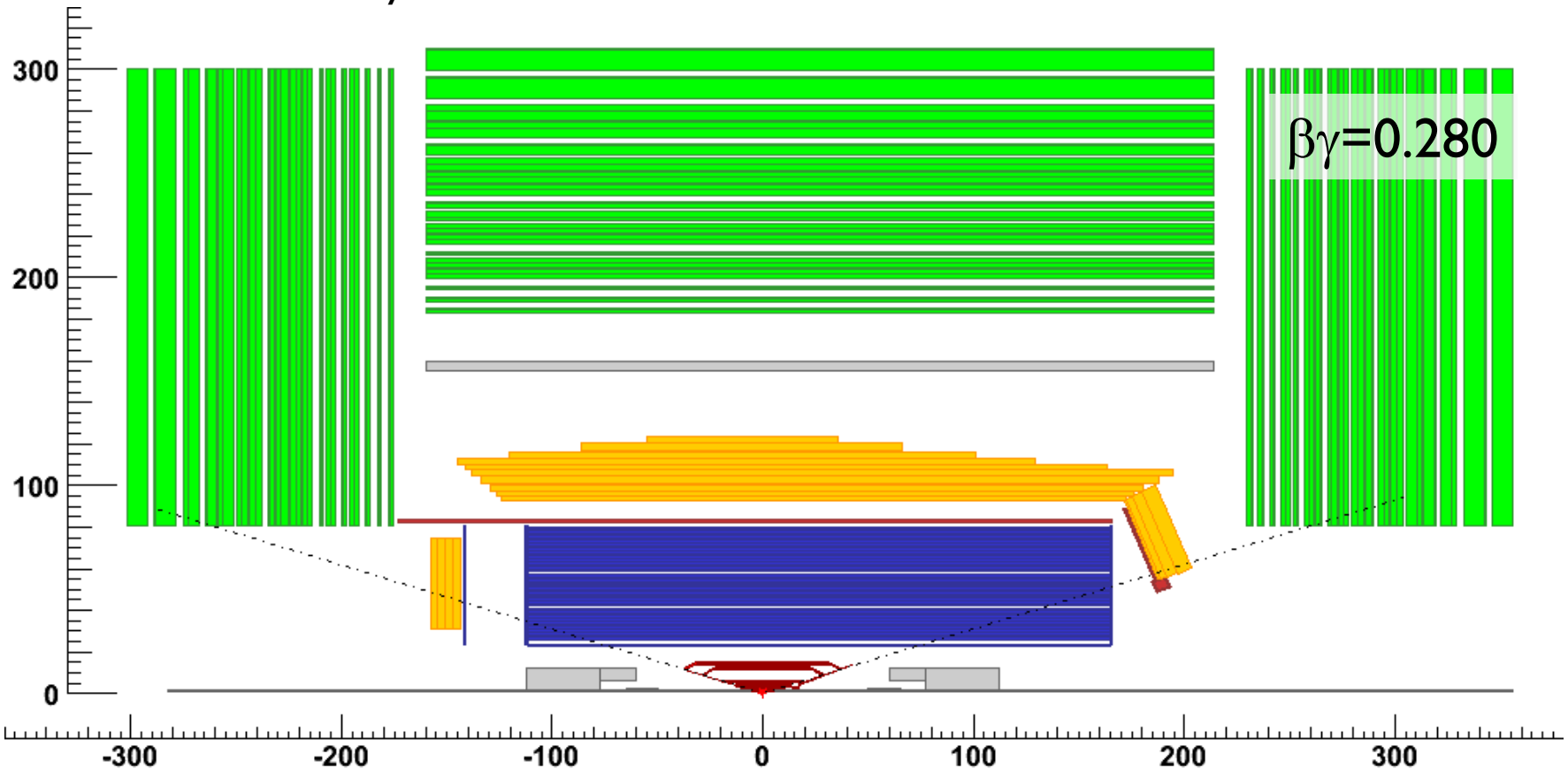
	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



#4c

as #4 but with the IP shifted by +10cm w.r.t. DCH and outer systems

	SVT	DCH	PID	EMC	IFR
0	5 layers+L0	"babar"	DIRC	fwd LYSO	baseline
1	5 layers+L0	"babar"+bwd+fwd	DIRC	fwd LYSO	baseline
2	5 layers+L0	"babar"+bwd	DIRC+fwd	fwd LYSO	baseline
3	5 layers+L0	"babar"+fwd	DIRC	fwd LYSO+bwd	baseline
4	5 layers+L0	"babar"	DIRC+fwd	fwd LYSO+bwd	baseline
5	5 layers+L0	"babar"	DIRC	fwd CsI+LYSO+bwd	baseline



- It is hoped that the test-production output could be useful for studies targeting the SuperB meeting at SLAC in ~1 month
- 0+1+…+4(a/b/c) may be too many configurations for the test production. We propose this prioritized list:
  - 4, 0, 4a, 4b, 4c, 1,2,3