B-jet MC Response from Fast Simulation

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Calibration Meeting
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Outline

- Introduction
- Z peaks
- Multiplicity (Charged and Neutral Particles)
- Conclusions

INTRODUCTION

- Z-> two jet events (no ISR/FSR)

- Try to find some hints of properties distinguishing b-jets from light quark jets with a fast simulation

- Cone size is 0.7 unless otherwise stated

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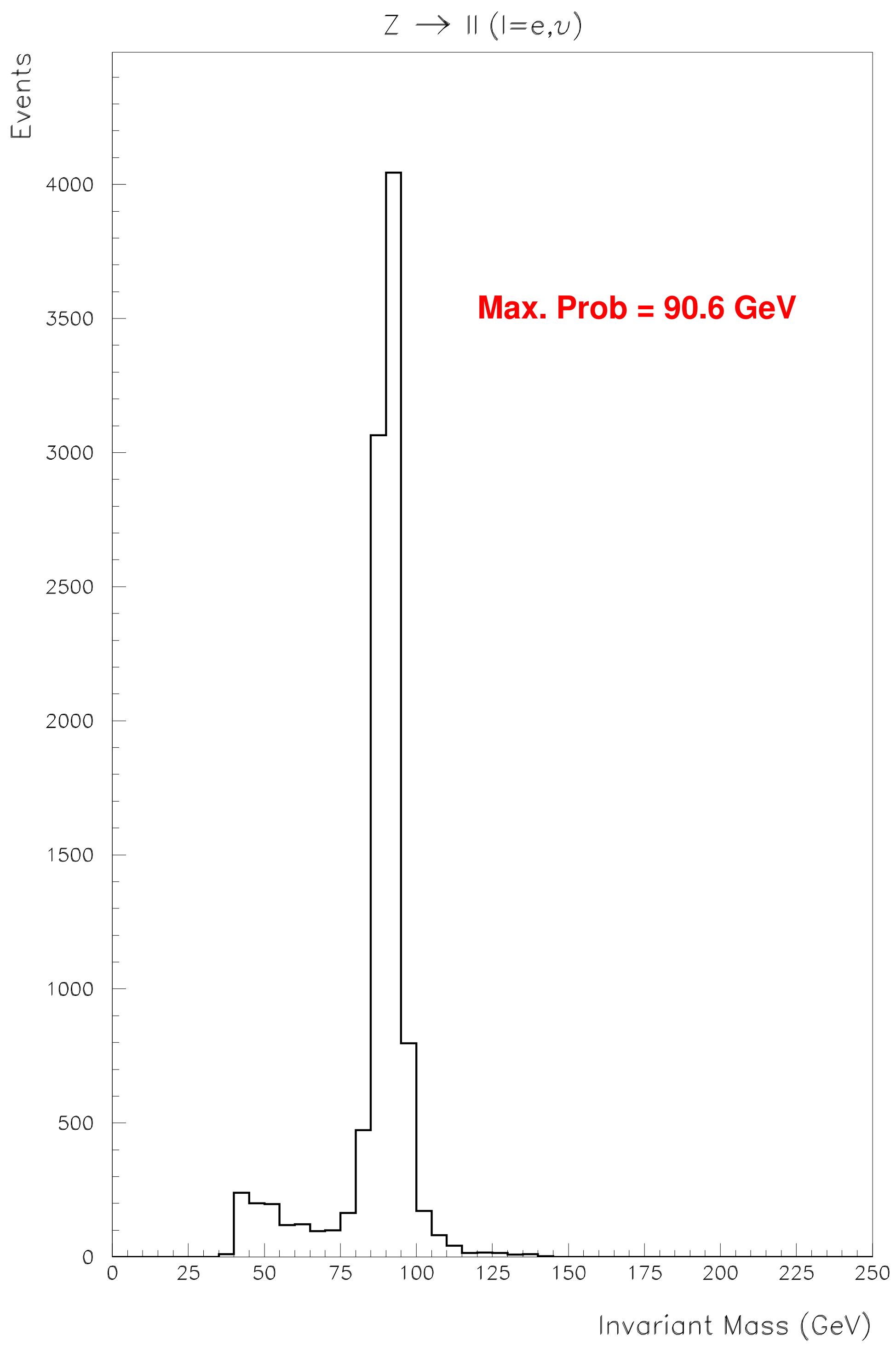
$Z \rightarrow ll(l = e, \mu)$



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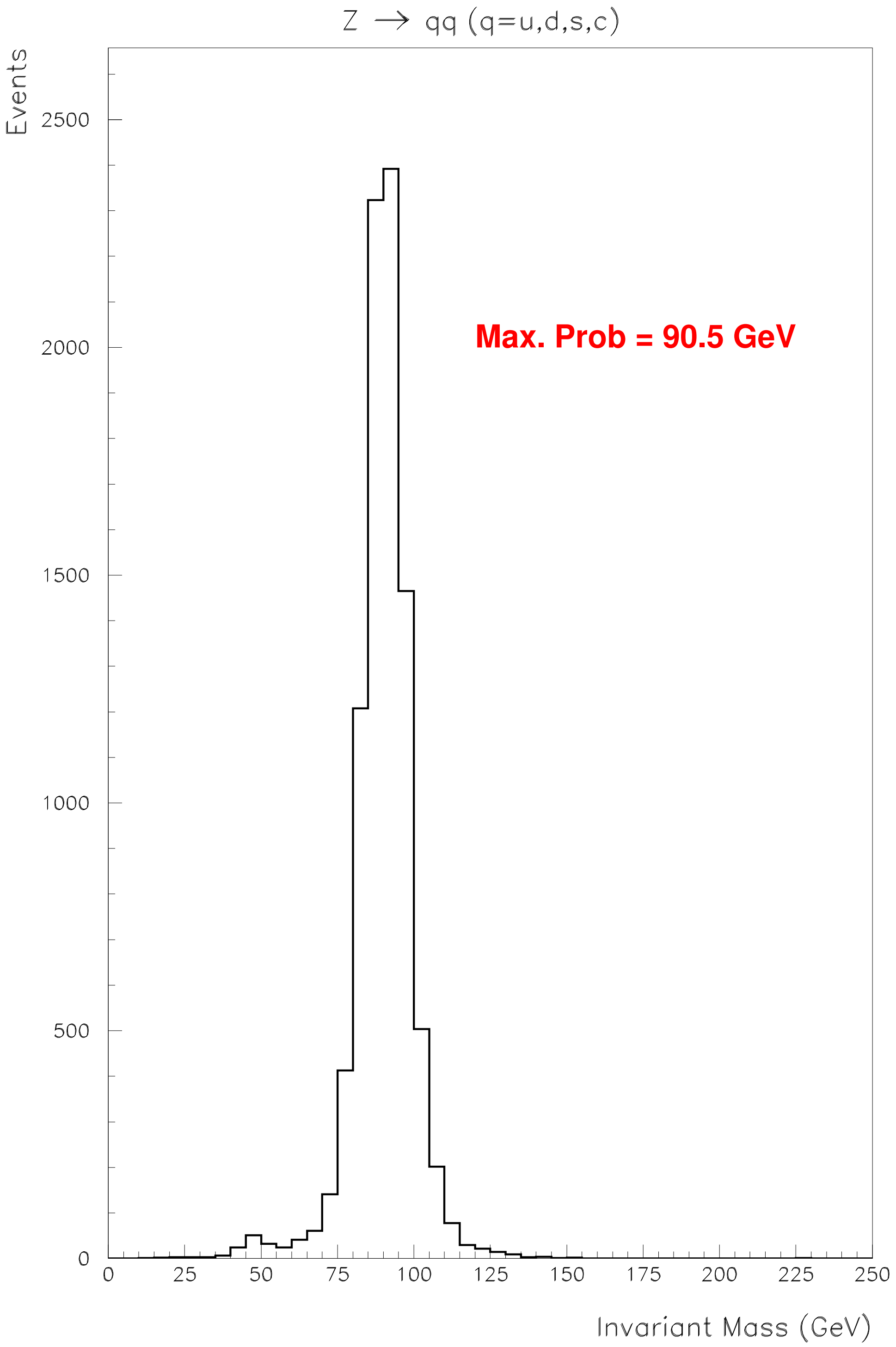
$Z \to qq(u, d, s, c)$



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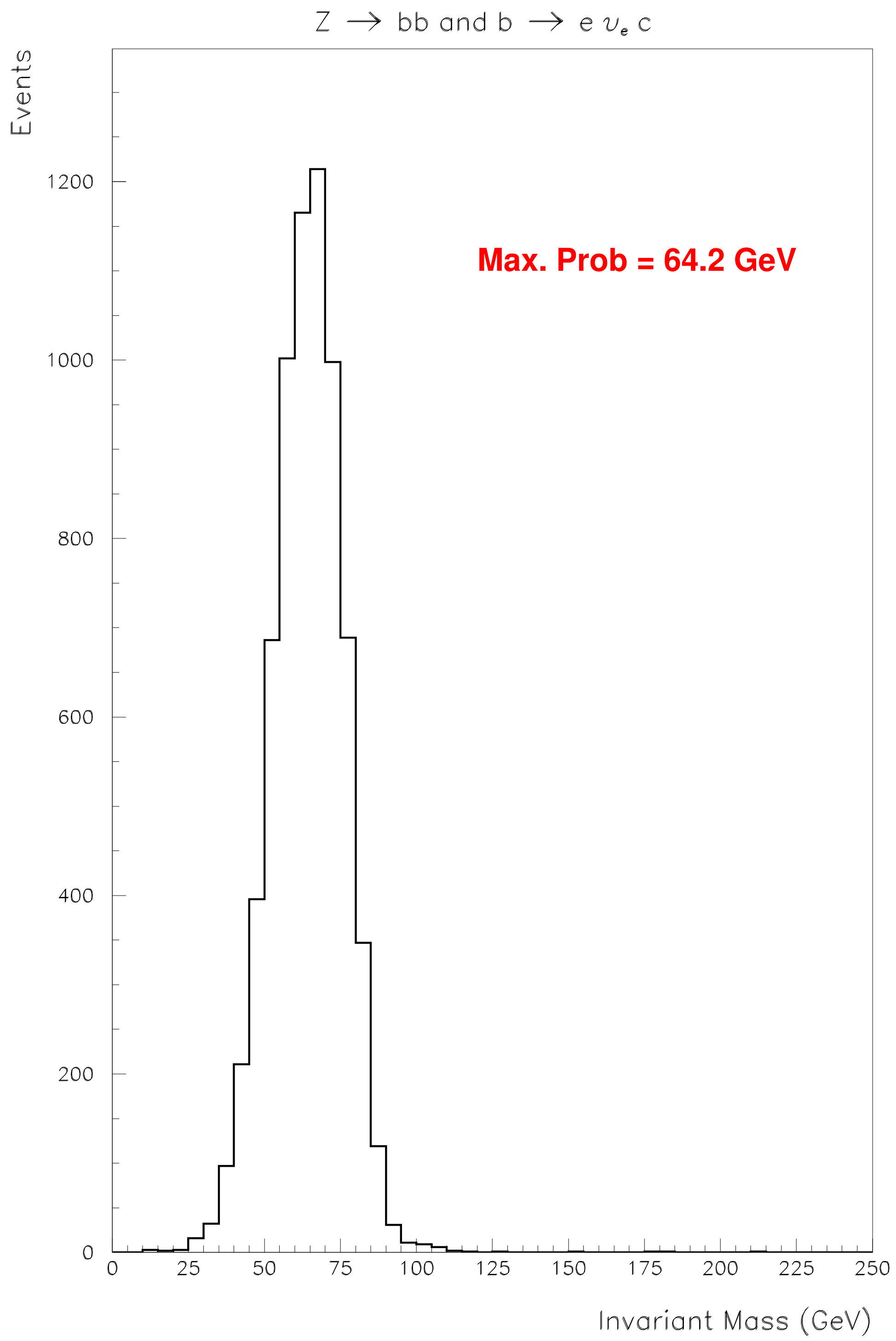
$Z \to bb \to e\nu_e c$



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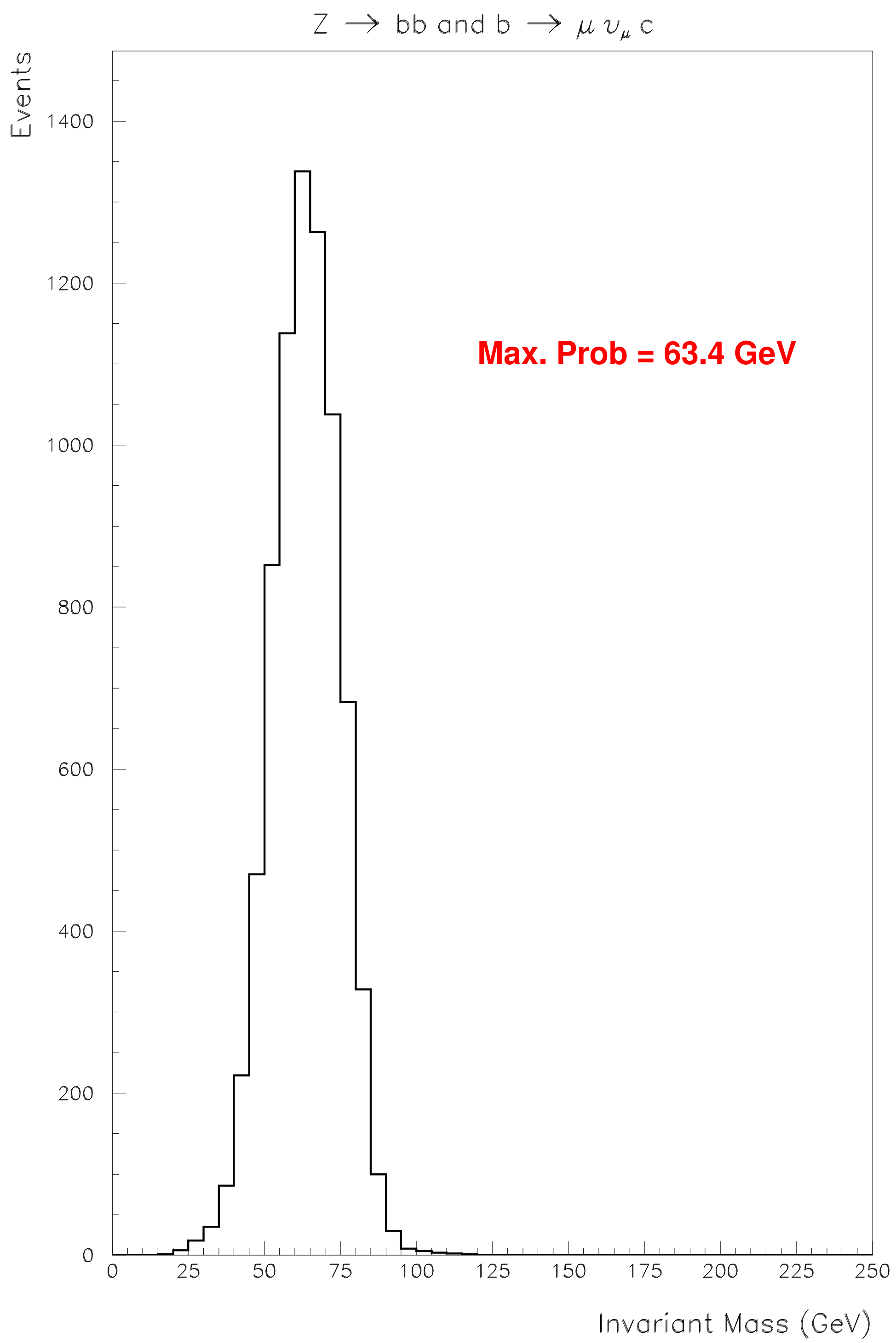
$Z \to bb \to \mu\nu_\mu c$



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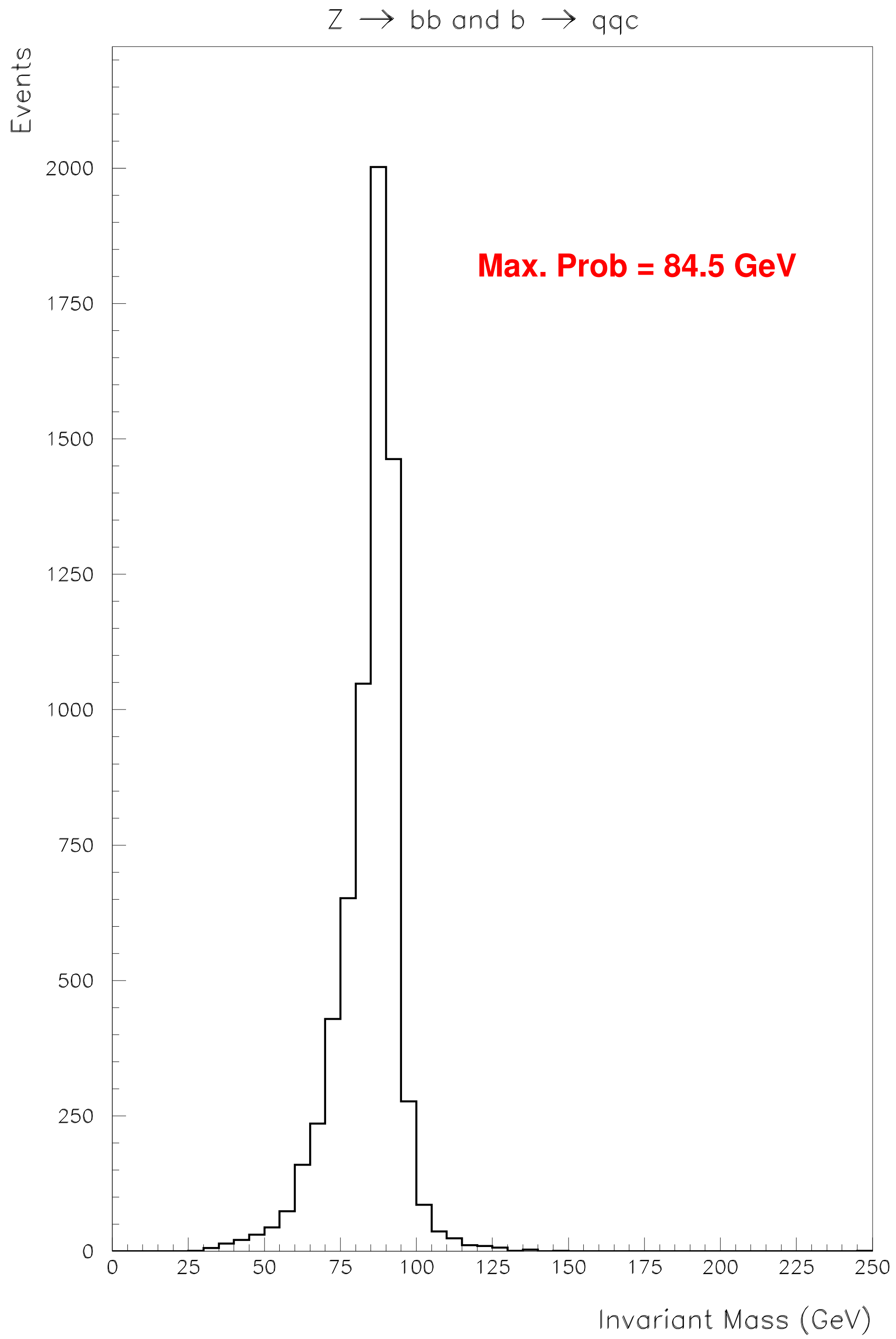
$Z \to bb \to qqc$



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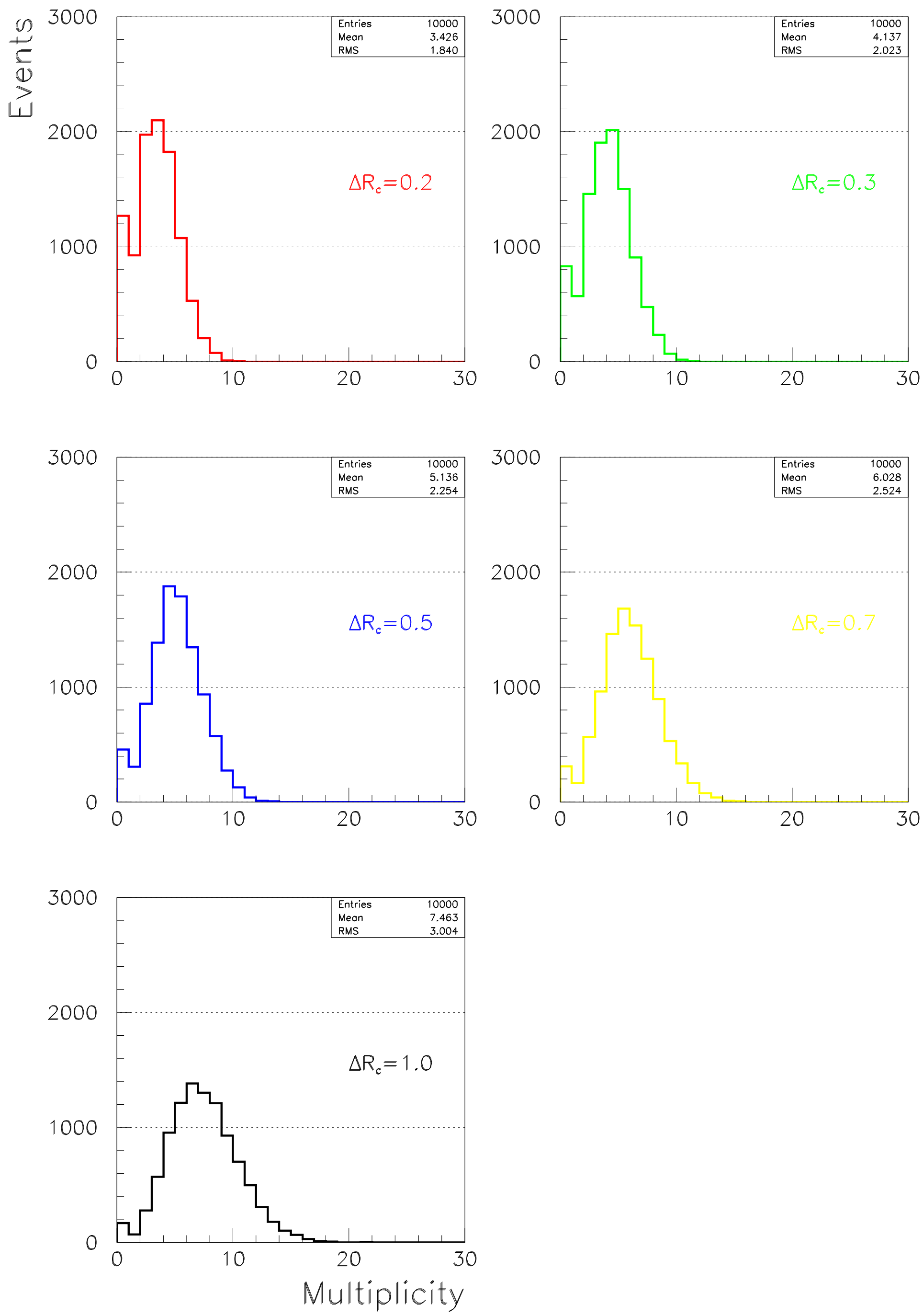
Charged tracks : $Z \to qq(u,d,s,c)$



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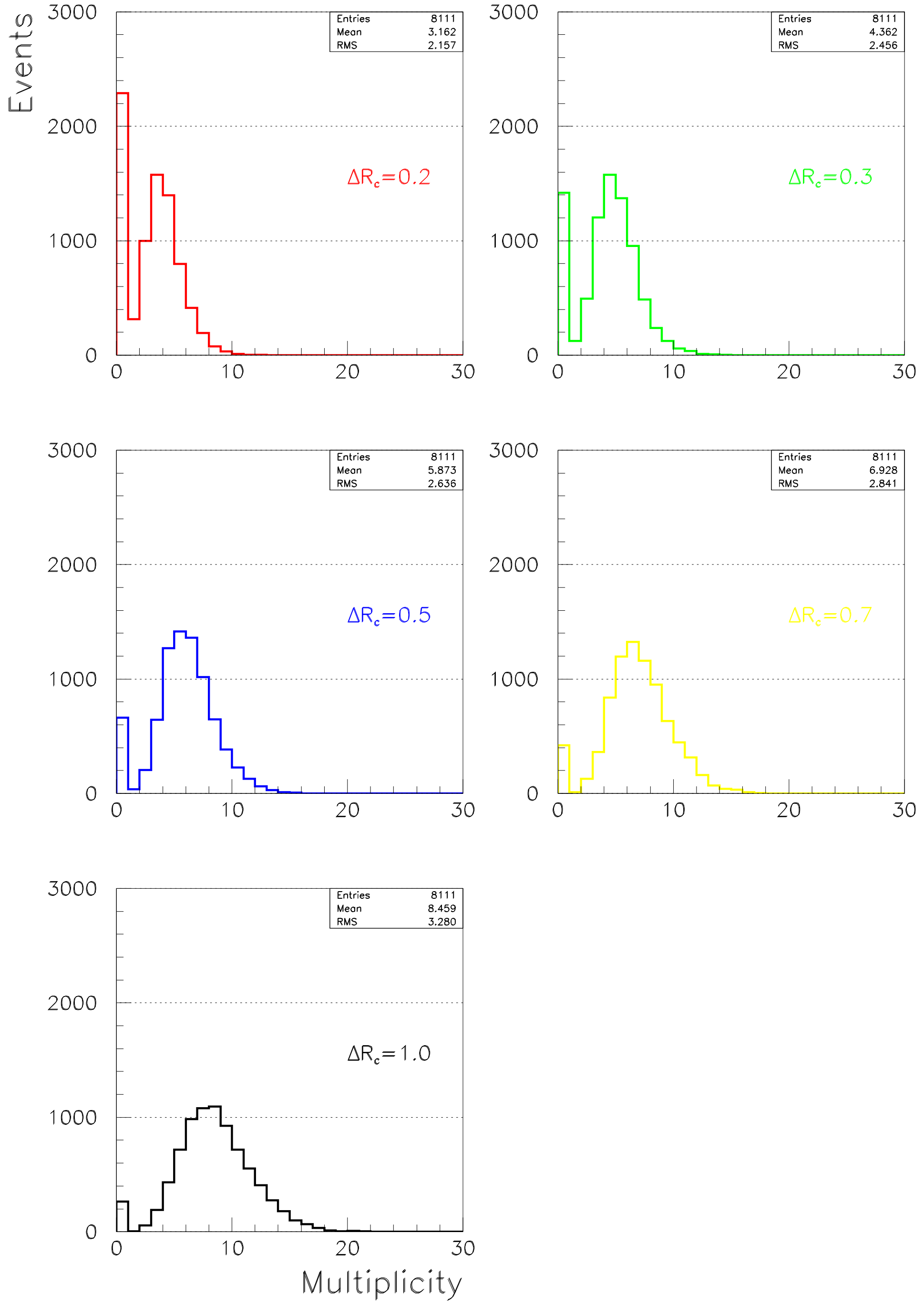
Charged tracks : $Z \to bb \to e\nu_e c$



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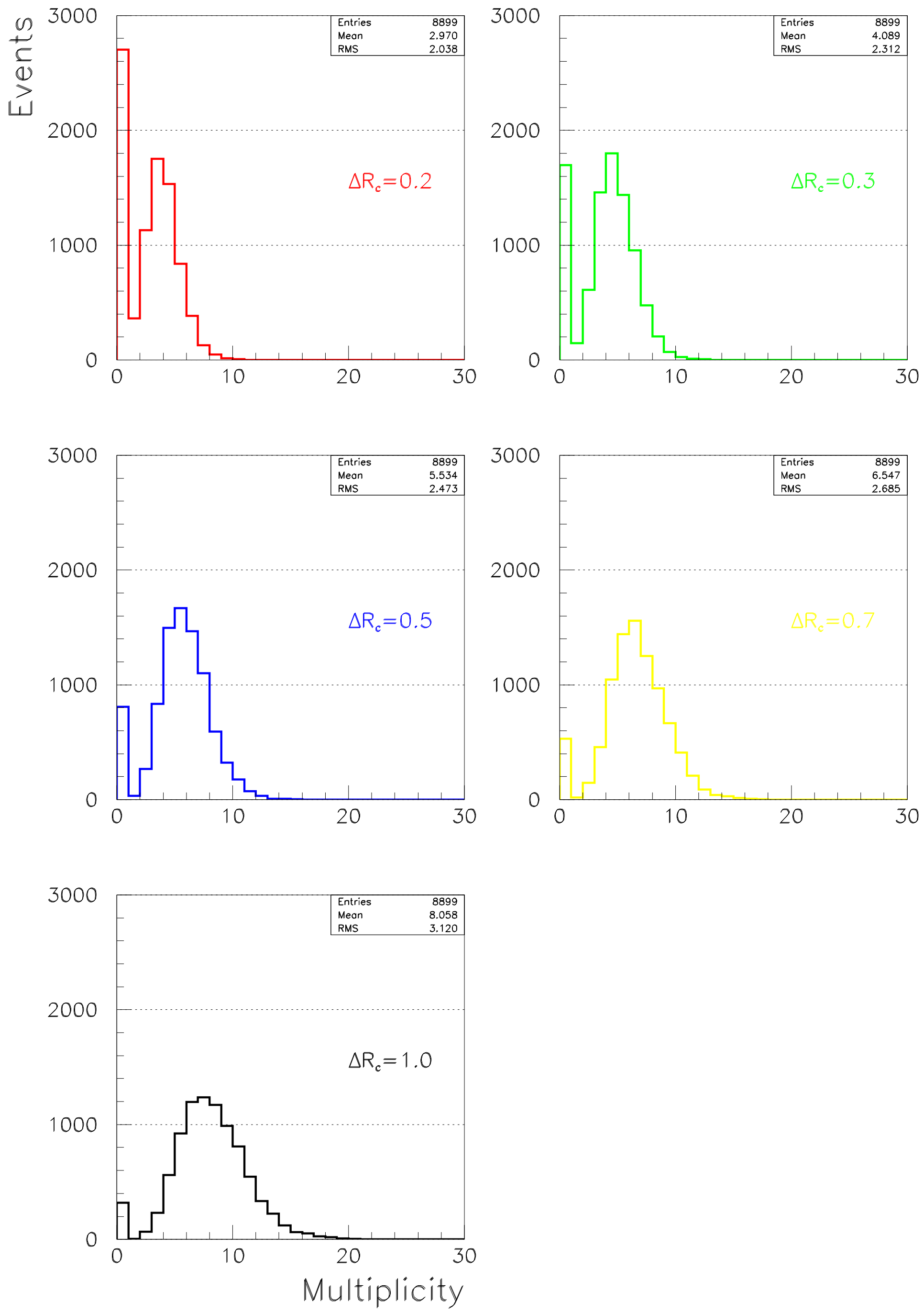
Charged tracks : $Z \to bb \to \mu\nu_\mu c$



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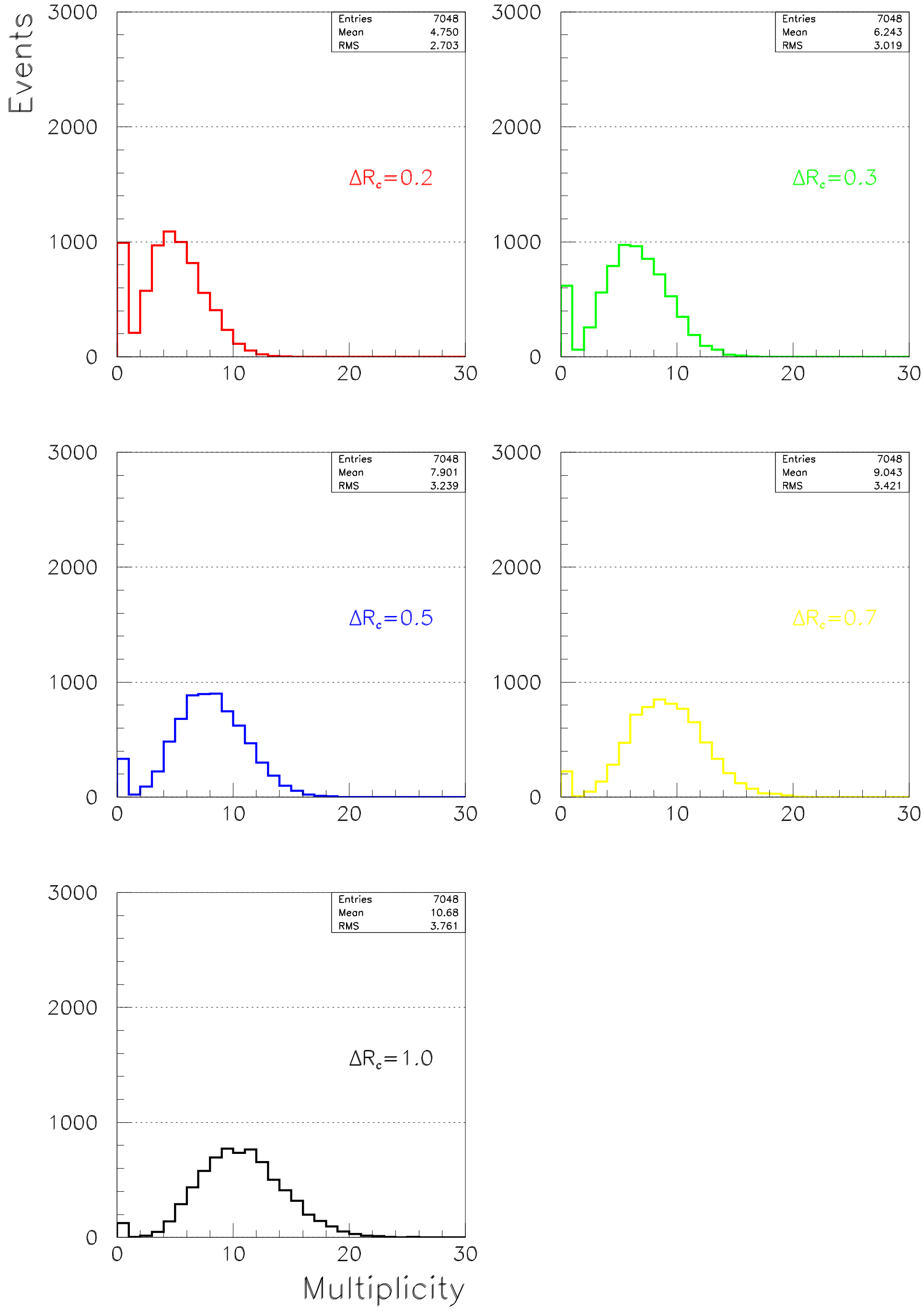
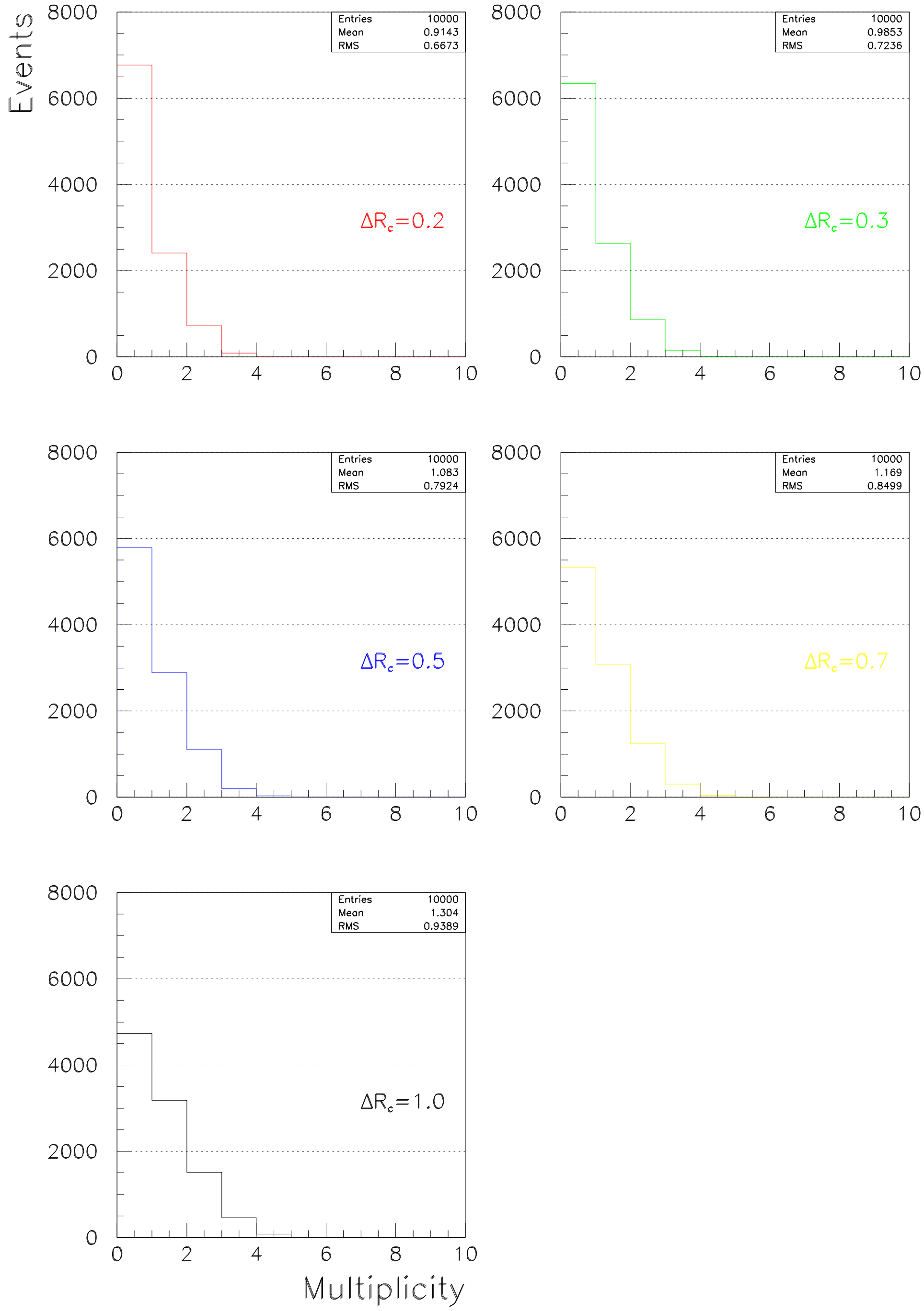
Charged tracks : $Z \to bb \to qqc$



neutrals : $Z \to qq(u,d,s,c)$



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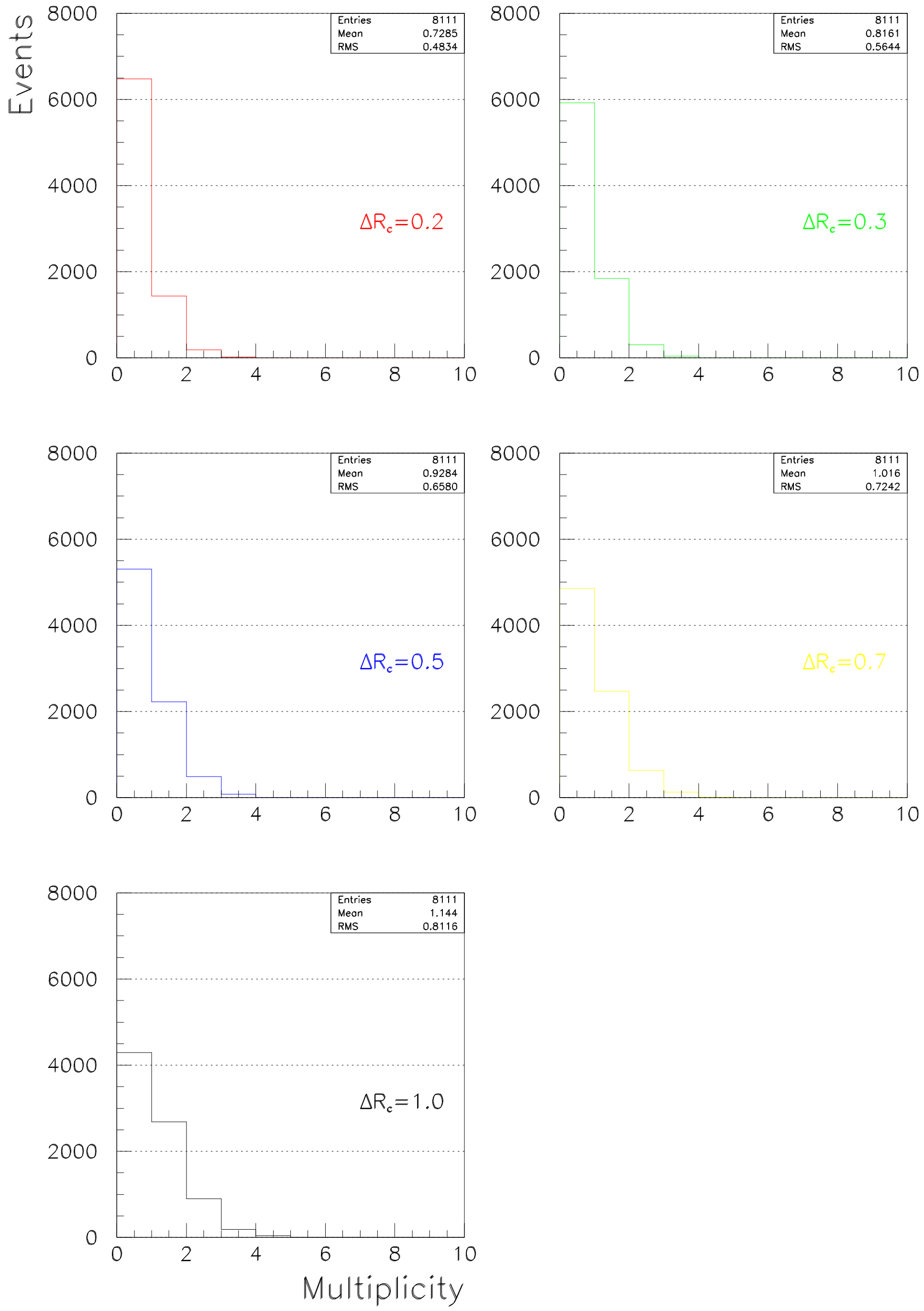
neutrals : $Z \to bb \to e\nu_e c$



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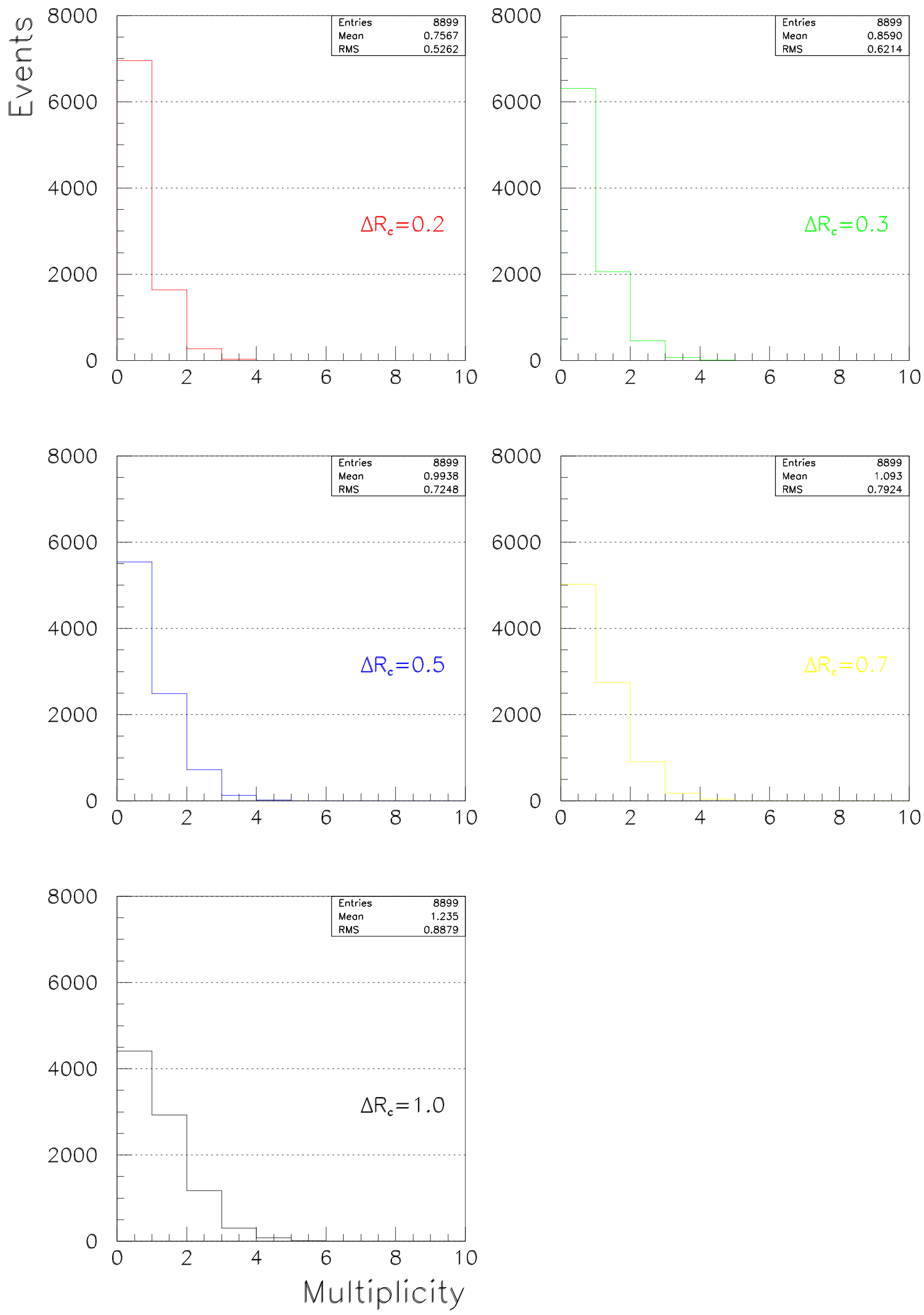
neutrals : $Z \to bb \to \mu\nu_\mu c$



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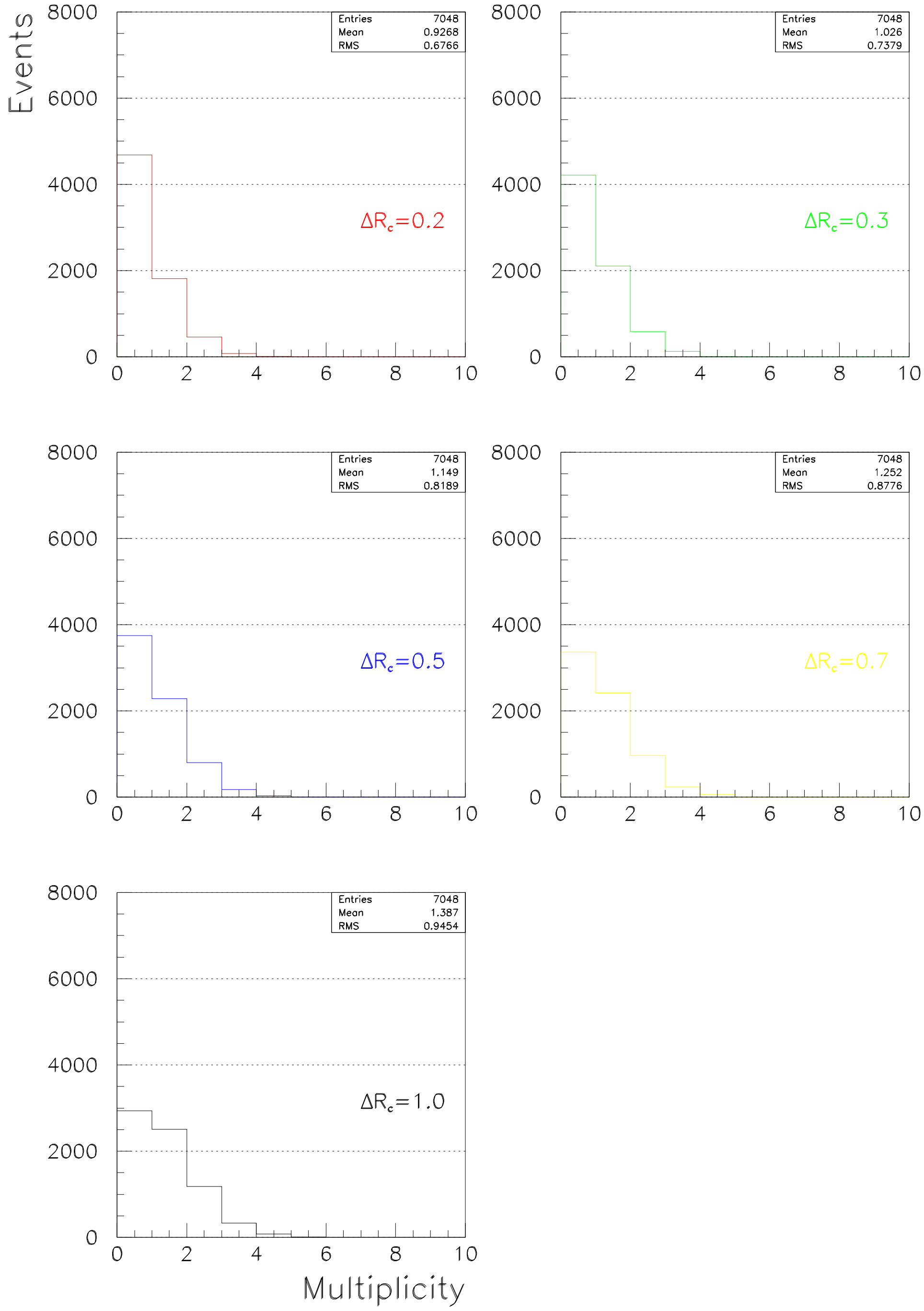
neutrals : $Z \to bb \to qqc$



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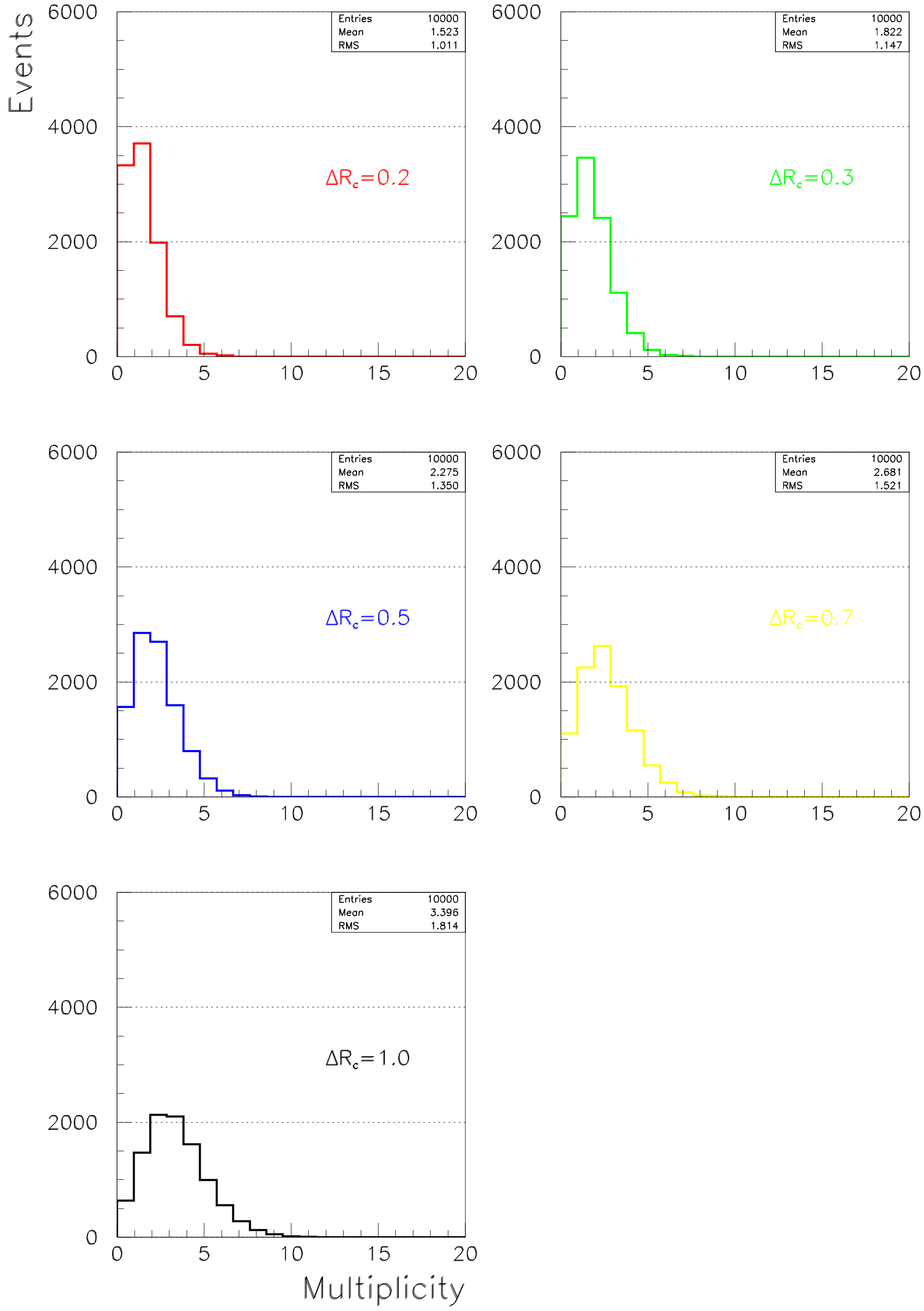
$\pi^0 : Z \rightarrow qq(u, d, s, c)$



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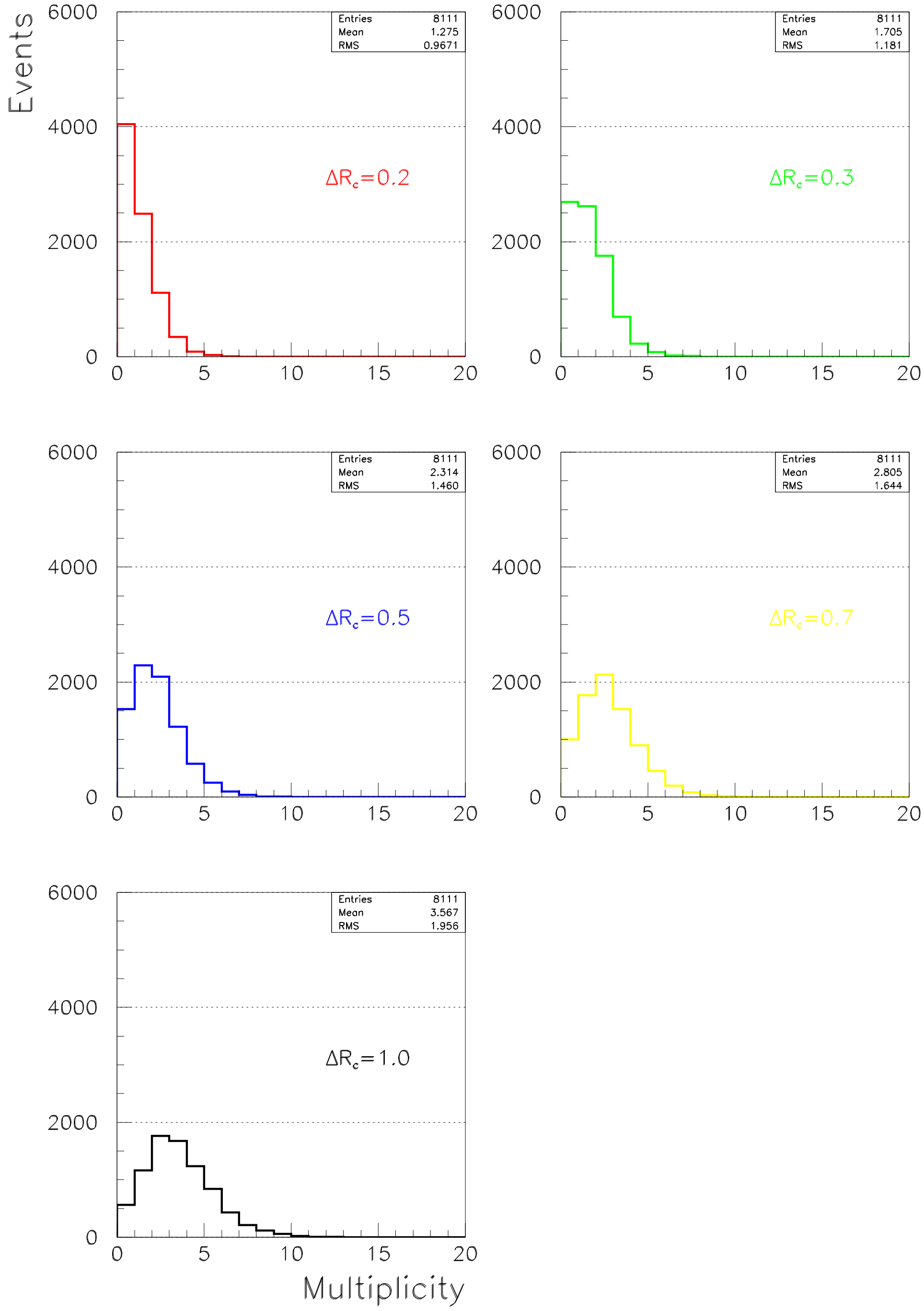
$\pi^0 : Z \to bb \to e\nu_e c$



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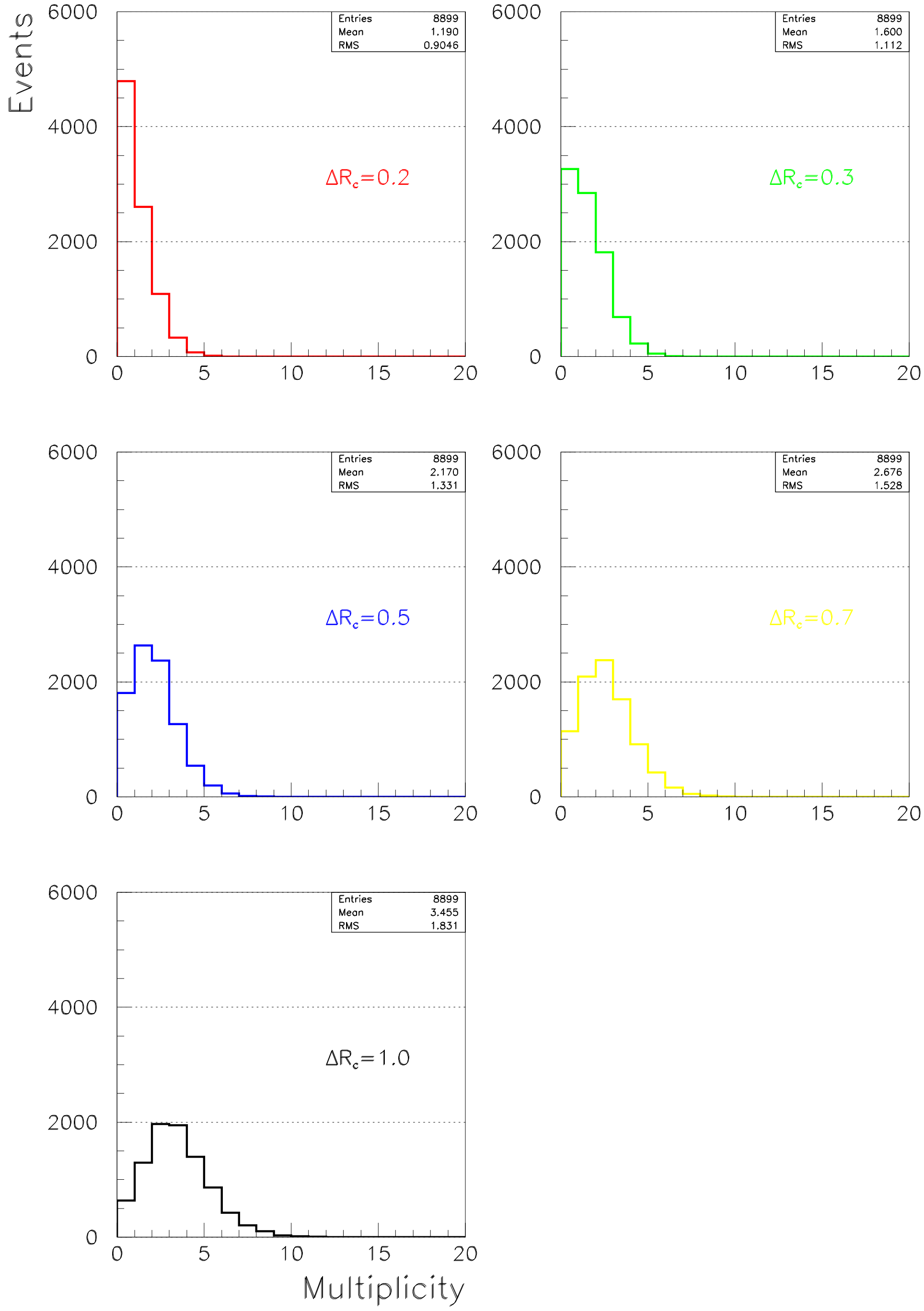
$\pi^0 : Z \to bb \to \mu\nu_\mu c$



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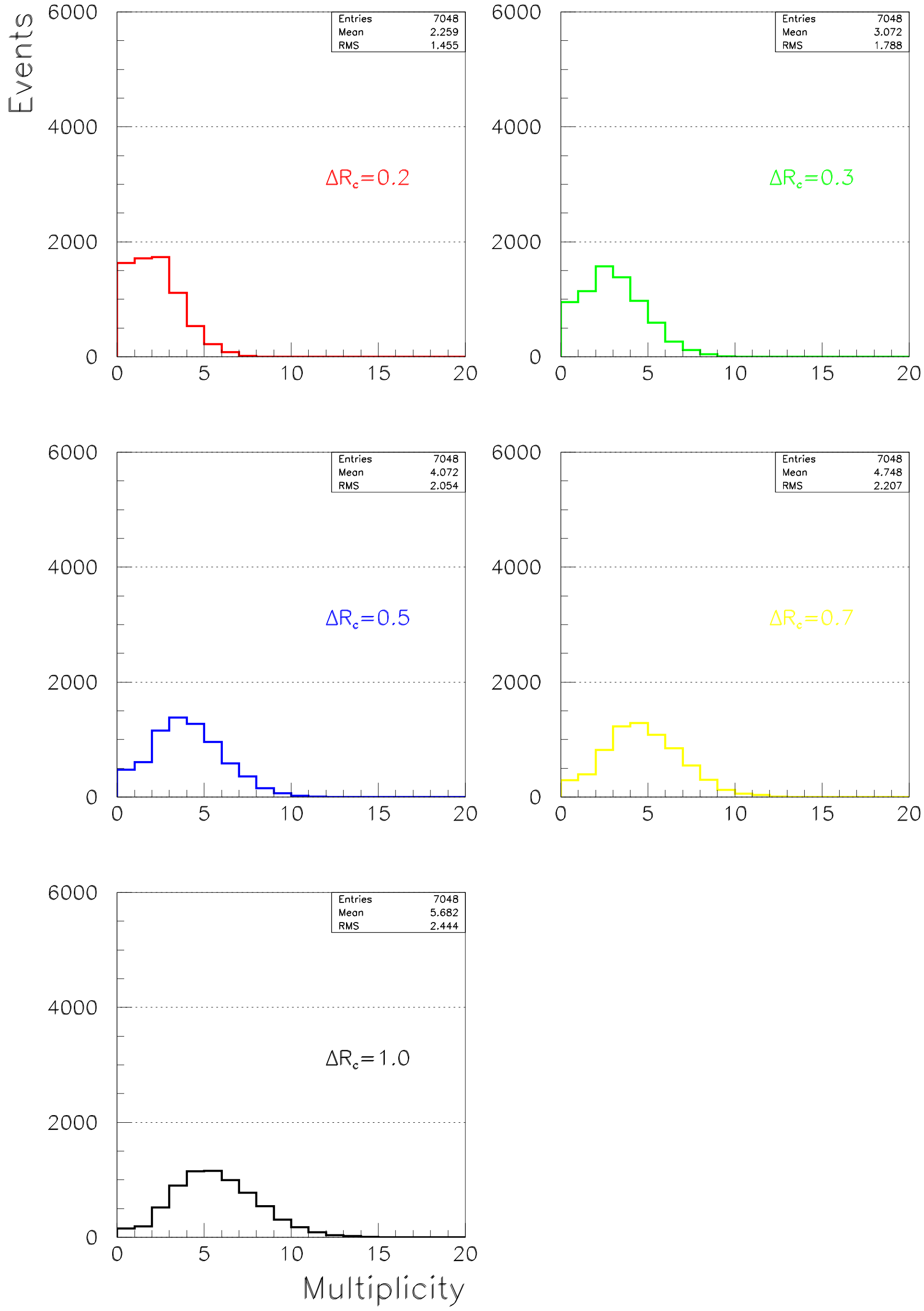
$\pi^0 : Z \to bb \to qqc$



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CONCLUSION

- **b-jet have larger multiplicities**

- **more out-of-cone showering (compare Z peak in $Z \to bb \to h\ with\ Z \to qq$)**

- **lower response**

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