

# The generators BCVEGPY & GENXICC

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## Chao-Hsi Chang (Zhao-Xi Zhang)

BCVEGPY (by C.H. Chang, X.G. Wu, J.X. Wang, C.Driouichi & P. Eerola)

Generator of Bc based on LO  $\alpha_s^4$  QCD (NRQCD) & well-tested

Version: 1.0 (CPC, 159: 192); 1.1; 2.0 (CPC, 174: 241); 2.1 (CPC, 175: 624)

Download: either CPC Lib. or <http://www.itp.ac.cn/~zhangzx>

Contents (Fortran 77/90 and GNU C compiler):

Bc, Bc\* and p-wave excited states, gluon-gluon fusion, quark-antiquark annihilation, color-singlet mechanism and color-octet mechanism etc.

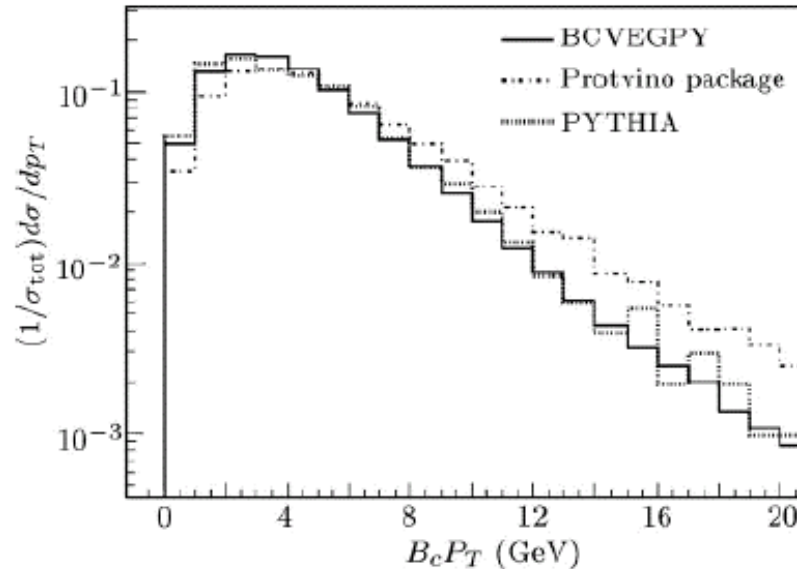
Advantages:

- a). To generate Bc events for hadron collision with high efficiency (helicity amp. technology and symmetries etc are exhausted).
- b). Information about associate b, anti-c quark jets in the production can be kept as one's wish.
- c). The interface to connect to PYTHIA conveniently.
- d). Many options for various usages (manners for collecting events, VEGAS etc and see reference in CPC) are available.

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Well-tested :

BCVEGPY (by C.H. Chang et al) is used:  
(agree with PYTHIA but much more faster)



**GENXICC** (by C.H. Chang, X.G. Wu & J.X. Wang)

Generator of the doubly heavy baryons  $\Xi_{cc}$ ,  $\Xi_{bc}$  and  $\Xi_{bb}$   
based on LO  $\alpha_s^4$  QCD gluon-gluon fusion, NRQCD and else

Version: CPC,177: 467.

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