Erratum to "DRoplet and hAdron generator for nuclear collisions: An update" [Comput. Phys. Comm. 207 (2016) 545-546]

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Abstract

This version fixes a critical bug in the generation of momenta.

Keywords: ultrarelativistic heavy-ion collisions; hadron production; freeze-out; Blast-wave model, fragmentation

NEW VERSION PROGRAM SUMMARY

Manuscript Title: Erratum to "DRoplet and hAdron generator for nuclear collisions: An update" [Comput. Phys. Comm. 207 (2016) 545-546]
Authors: Boris Tomášik
Program Title: DRAGON
Journal Reference:
Catalogue identifier:
Licensing provisions: none
Programming language: C++
Computer: PC, PC cluster, MacBook
Operating system: LINUX, OSX
RAM: of the order 10MB, but this depends on the size of the generated events
Number of processors used: 1
Supplementary material: none
Keywords: ultrarelativistic heavy-ion collisions; hadron production; freeze-out; Blast-wave model, fragmentation
Classification: 11.2

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Does the new version supersede the previous version?: yes (it just fixes one critical bug)
Nature of problem:
Please refer to the original paper.
Solution method:
Please refer to the original paper.
*Reasons for the new version:**
An error was discovered in two methods used for the generation of random numbers which then become the momenta of the particles. The distributions of the momenta were rather different from the required Bose-Einstein or Fermi-Dirac distributions.
*Summary of revisions:**
The bug was fixed and now the generated momenta obey the Bose-Einstein or Fermi-Dirac distributions. Although the used methods also allow to specify chemical potential, which influences the momentum distribution, this possibility is not employed in this version. Momenta are generated from quantum-statistical distributions with vanishing chemical potentials.
Restrictions:
none
Unusual features:
none
Additional comments:
none
Running time:
Depends on the required number of events to be generated and on the values of the parameters. The test run with the default setting which generates 500 events corresponding to 2 units of rapidity in Au+Au collisions at top RHIC energy with no drops takes about 1 minute on MacBook Pro with 2.9 GHz Intel Core i7 with OSX 10.11.5 (El Capitan).