Some New Algorithms for Monte-Carlo Event Generators

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Monte-Carlo generators of events are important for modeling processes on colliders. Unlike numerical integration case a special treatment needed to achieve unit weight of events. We propose two algorithms of different kind to reach this goal. One of them based on interval arithmetic [1], [2] and another on fast-converging Chebyshev approximations.

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References

[1] R. E. Moore, *Interval Analysis*, Englewood Cliff, New Jersey, USA (1966).

[2] G. W. Walster, E. R. Hansen, *Global Optimization using Interval Analysis* (2nd ed.), New York, USA (2004).