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The density of states approach at finite chemical potential: a numerical study of the Bose gas.

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Recently, a novel algorithm for computing the density of states in statistical systems and quantum field theories has been proposed. The same method can be applied to theories at finite density affected by the notorious sign problem, reducing a high-dimensional oscillating integral to a more tractable one-dimensional one. As an example we applied the method to the relativistic Bose gas.

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