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Wang Landau for Real Alloys[1] DEREK OSTROM, Brigham Young University - Provo, LANCE NELSON, Brigham Young University - Idaho, GUS HART, Brigham Young University - Provo — Cluster Expansions are effective in providing fast Hamiltonians for modeling alloys.This enables us to find transition temperatures via Monte Carlo modeling. These Monte Carlo simulations require many tunable parameters that affect the results in non-intuitive ways. A new method proposed by Wang and Landau gives us a much simpler recipe for computing thermodynamic quantities. We demonstrate the power of this approach using the realistic example of the AgPd alloy.

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