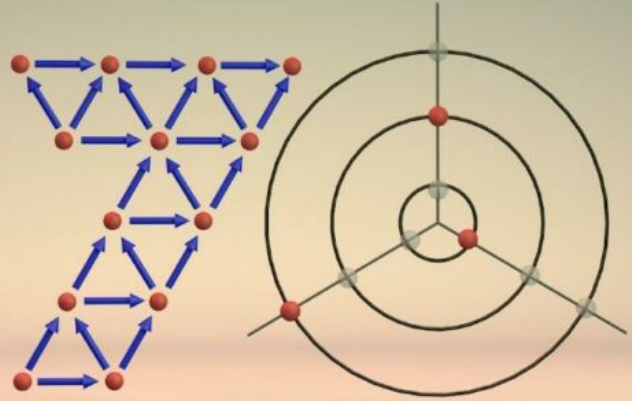




IPSC UNIVERSITY  
OF SÃO PAULO  
São Carlos Institute of Physics

# Brazilian School and Workshop on Statistical Mechanics – Recent Developments

São Carlos - January 23 to 27, 2023



## **An efficiency comparison of Monte Carlo Algorithms for the 2D Ising Model on GPU-based systems**

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We aim to analyze the efficiency of three different algorithms (Heat Bath, Metropolis and Worm Algorithms) for the numerical simulation of the 2d Ising model. In particular, we plan to discuss the differences in efficiency considering GPU computations when compared to traditional CPU runs. As a way to speed up our analysis, including a broader range of tested parameters in our optimization study, we may employ artificial intelligence models.

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