数学与系统科学研究院

计算数学所学术报告

报告人：Associate Prof. Cai Zhenning

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报告题目：

On discrete Wigner transforms

邀请人： 邸亚娜 副研究员

报告时间：2018 年 6 月 12 日（周二）

上午 10:00-11:00

报告地点： 科技综合楼三层

311 报告厅

Abstract：

we derive a discrete analog of the Wigner transform over the Hilbert space for many-body quantum systems with finite number of states, where the number of states (denoted by p) for each particle is prime. We show that the Wigner transform over this space can be constructed as the inverse Fourier transform of the standard Pauli matrices for p=2 or more generally of the Heisenberg-Weyl group elements for p>2. Our construction satisfies all the conditions proposed by Wootters [Ann. Phys., 176, pp. 1—21, 1987]. We will also discuss some implications of these results for the numerical simulation of many-body quantum spin systems.

欢迎大家参加！