Introductory Course to Tensor Networks

Monday 25 September 2023 - Thursday 28 September 2023

IGFAE - CESGA

Book of Abstracts

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Introduction to the Many-body problem

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Exact diagonalization of local Hamiltonians in 1D and the entanglement of their ground states

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Tensor networks

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Matrix product states

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Quench in the Ising model with TEBD.

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Tensor Networks for the Industry: Ibermática.

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Tensor Networks are a Quantum-Inspired technology with utility far beyond basic research. Their great capacity to carry out complex calculations with few resources and emulate quantum systems

make them one of the great tools for the current and future industry. From Ibermática, different innovative methods have been investigated and applied to real industrial cases. In this presentation we will talk about some of these cases, with applied examples that can also be extrapolated to basic research.

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