## **Spatial Ising Machines**

C CONTI<sup>1</sup>, S GENTILINI<sup>2</sup>, M CALVANESE STRINATI<sup>3</sup>, D VERALDI<sup>1</sup>, AND D PIERANGELI<sup>1</sup>

<sup>1</sup>Department of Physics, Sapienza University of Rome, Rome, Italy

<sup>2</sup>CNR-ISC, Rome, Italy

<sup>3</sup>Research Center Enrico Fermi, Rome, Italy

Contact Email: claudio.conti@uniroma1.it

I will review our work on the spatial ising machine, an optical accelerator that computes the ising Hamiltonian by light modulation. I will also describe recent theoretical developments concerning the use of high-dimensional spins for combinatorial optimization and proposed experimental implementations that exploit light polarization.