

Mathematical structure of quantum spin systems

Fernando Lledó

Department of Mathematics, Universidad Carlos III de Madrid

and Instituto de Ciencias Matemáticas (ICMAT), Madrid

Email: flledo@math.uc3m.es

Abstract

The theory of operator algebras has been one of the most pervasive topics both in mathematics and mathematical physics, in particular, in the mathematical description of quantum mechanics and quantum field theory. In this project we will study, depending the candidate's background, different mathematical structures related to quantum spin systems in a lattice. For example, we can study finite-dimensional approximations, limits or different dynamics associated to these systems.

REFERENCES

1. O. Brattelli and D.W. Robinson, *Operator Algebras and Quantum Statistical Mechanics*, Springer Verlag, New York.