



ID de Contribution: 14

Type: **Lecture / lecture series**

Conformal bootstrap studies of puzzles in critical phenomena

mercredi 19 mai 2021 16:30 (1 heure)

Renormalization group methods have been used for almost 50 years to obtain results for critical exponents and other conformal field theory (CFT) observables. Agreement with experiment has been good in many cases, but disagreements between theory and experiment that have remained unresolved for decades also exist.

In this talk, I will discuss the conformal bootstrap of three-dimensional CFTs with $O(m) \times O(n)$, $O(m) \times \hat{S}_n$ and $\mathbb{Z}_2 \times \hat{S}_n$ global symmetries. For some values of the parameters m and n such CFTs describe continuous phase transitions in frustrated magnets and structural phase transitions, where theory and experiment have not yet reached satisfactory agreement.

I will show that the conformal bootstrap gives evidence for the existence of previously unknown CFTs with potential relevance to these phase transitions.

Orateur: STERGIU, Andreas (Los Alamos National Laboratory)

Classification de thématique: 3. Structural phase transitions and other unitary problems