

Joint CQSE and CASTS Seminar

2019
Apr. 12, Friday

TIME Apr. 12, 2019, 14:30 ~ 15:30
TITLE Numerical solution of QCD: how supercomputers help us study quark flavor
SPEAKER Prof. Matthew Wingate
Department of Applied Mathematics and Theoretical Physics,
University of Cambridge
PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Quantum chromodynamics (QCD) is the condensed matter sector of the Standard Model of particle physics. Although the fundamental quanta are quarks and gluons, the experimentally observed hadrons are strongly bound, collective excitations. This talk will review how methods familiar from statistical physics are being used to calculate the properties of hadrons from first principles. In particular, I will focus on processes which involve one type or 'flavor' of quark changes into another via the fundamental Weak force. The combination of precise computation and measurement may give indirect evidence of physics beyond the Standard Model.

