Lattice Gauge Theory for LHC Physics
May 2-3, 2008, Livermore, CA

Introduction

US Lattice Quantum Chromodynamics

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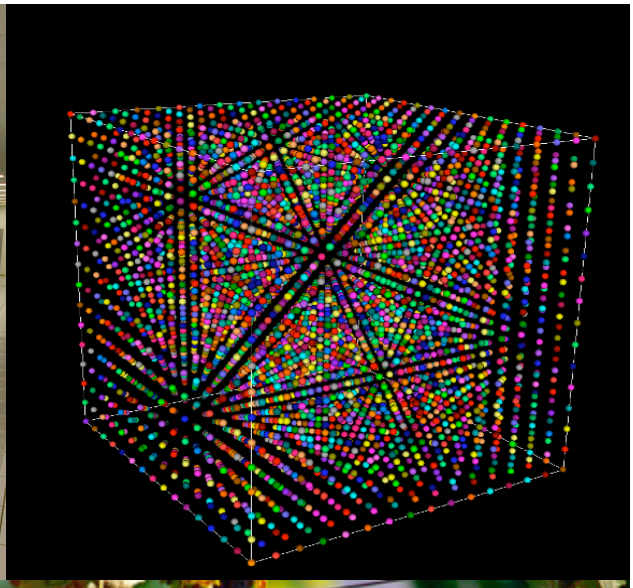
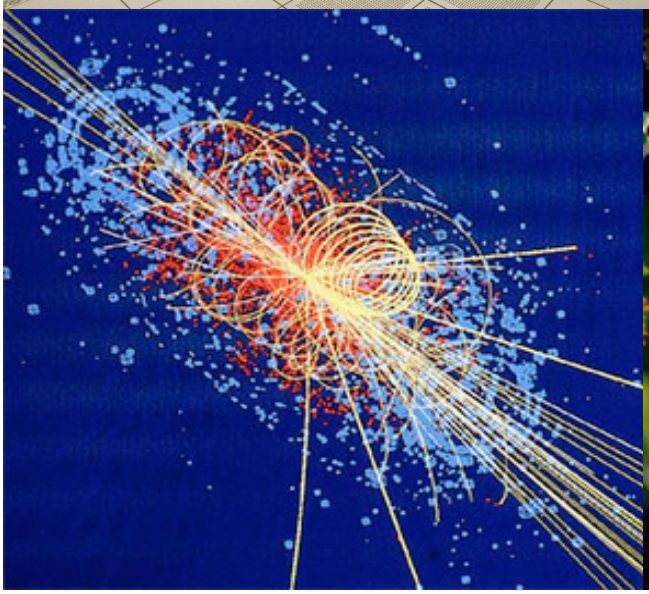
Four good reasons

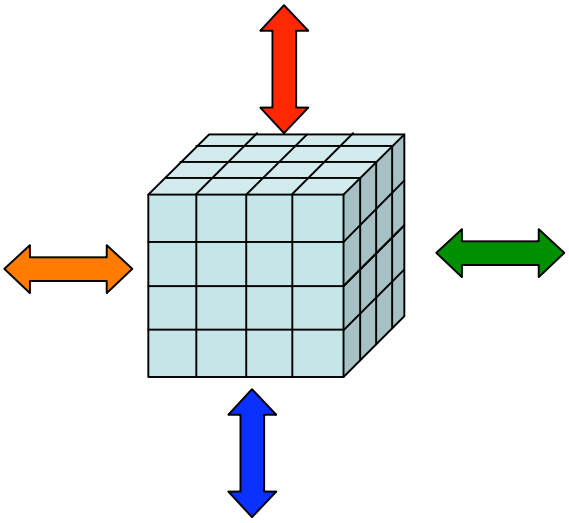
- ✓ **LHC: Experiments Beyond the Standard Model**
- ✓ **Theory: Possibly non-perturbative**
- ✓ **Lattice: Non-perturbative methods, simulations**
- ✓ **Supercomputers: Amazing simulation power**





Focus on the lattice

- What non-perturbative input should/could the lattice provide:
  - to LHC theory and phenomenology ?
  - to LHC experiment - Predict ?
- Some current LHC efforts on the lattice.
- Latest lattice methods and algorithms.
- Current and future computational capabilities for lattice numerical simulations.
- A perspective on the role of the lattice.



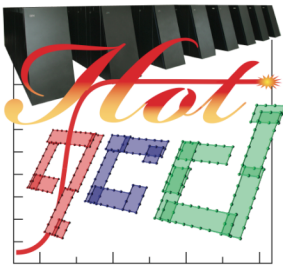
Also in 2008

Lattice BSM white paper presented to DOE by the USQCD Executive Committee
www.usqcd.org

US Lattice Quantum Chromodynamics

USQCD DOE Office of Science (John Kogut) computing allocation for Lattice BSM.

The HotQCD Collaboration
10% allocation on LLNL 600 TerafLops BG/L NNSA (Dimitri Kusnezov)



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Workshop wish list

- ✓ **Further explore the role of the lattice in the LHC era.**
- ✓ **Know each other.**
- ✓ **A reference point for future collaboration.**
- ✓ **A white paper.**
- ✓ **Be ahead of LHC. Predict.**