

**QPT 2021**

*Guiyang, China*

Contribution ID: 137

Type: **not specified**

## **Probing critical fluctuations with deep learning in relativistic heavy-ion collisions**

Systems with different interaction Hamiltonian develop the same critical behaviour. Using this universality, we are able to encode critical fluctuations into the data of heavy ion collisions.

Weak signals of a few inter-particle correlations hide within a large particle cloud. The task is as difficult as looking for needles in a haystack.

Employing a point cloud network with dynamical edge convolution, we are able to identify events with critical fluctuations through supervised learning, and pick signal particles used for decision-making in each single event.

### **Topics**

Other related physics

**Primary author:** Mr HUANG, Yige (CCNU)

**Co-authors:** PANG, LongGang (Central China Normal University); Dr LUO, Xiaofeng (Central China Normal University)

**Presenter:** Mr HUANG, Yige (CCNU)