



Contribution ID: 259

Type: **Oral presentation**

## String breaking in $N_f=2+1$ QCD

*Wednesday, 28 July 2021 14:15 (15 minutes)*

We extend our study of the static potential in  $N_f=2+1$  QCD to determine its quark mass dependence. We use a set of CLS (Coordinated Lattice Simulations) ensembles at a lattice spacing  $a=0.064$  fm along a chiral trajectory of constant sum of the bare quark masses. The pion masses range from  $m_\pi=420$  MeV at the symmetric point down to  $m_\pi=200$  MeV. We use a model to parametrize the lowest three static potentials in the region where string breaking occurs due to formation of a pair of static-light or static-strange mesons. We find that the model works very well at all quark masses analyzed and discuss the dependence of its parameters as the quark mass is varied.

**Primary authors:** HÖRZ, Ben (Lawrence Berkeley National Laboratory, Berkeley, USA); MORNINGSTAR, Colin (Carnegie Mellon University, Pittsburgh, USA); KNECHTLI, Francesco (Bergische Universität Wuppertal, Germany); BULAVA, John (DESY, Zeuthen, Germany); PEARDON, Mike (Trinity College Dublin, Ireland); KOCH, Vanessa (Bergische Universität Wuppertal, Germany)

**Presenter:** KNECHTLI, Francesco (Bergische Universität Wuppertal, Germany)

**Session Classification:** Hadron Spectroscopy and Interactions

**Track Classification:** Hadron Spectroscopy and Interactions