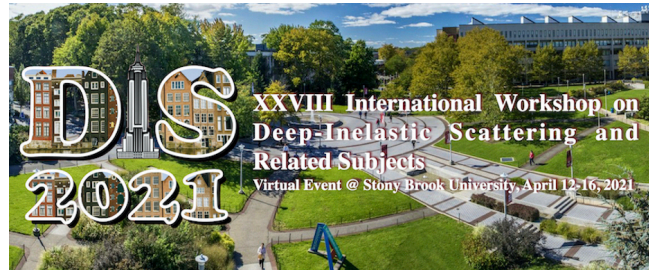


# XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 474

Type: **Contributed Talk**

## Mechanical properties of proton in a light-front quark-diquark model

*Thursday, 15 April 2021 08:36 (18 minutes)*

We obtain the gravitational form factors (GFFs) and investigate their applications for the description of the mechanical properties, i.e., the distributions of pressures, shear forces inside proton, and the mechanical radius, in a light-front quark-diquark model constructed by the soft-wall AdS/QCD. The GFFs,  $A(Q^2)$  and  $B(Q^2)$  are found to be consistent with the lattice QCD, while the qualitative behavior of the  $D$ -term form factor is in agreement with the extracted data from the deeply virtual Compton scattering (DVCS) experiments at JLab, the lattice QCD, and the predictions of different phenomenological models. The pressure and shear force distributions are also consistent with the results of different models.

**Primary authors:** Dr MONDAL, Chandan; MUKHERJEE, Asmita (IIT Bombay); Mr ZHAO, Xingbo (Institute of Modern Physics, Chinese Academy of Sciences); NAIR, Sreeraj (The Institute of Modern Physics (IMP) of the Chinese Academy of Sciences); Dr CHAKRABARTI, Dipankar (Indian Institute of Technology Kanpur)

**Presenter:** NAIR, Sreeraj (The Institute of Modern Physics (IMP) of the Chinese Academy of Sciences)

**Session Classification:** Spin Physics

**Track Classification:** Spin Physics