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# Understanding charm with LCSR using $D^* \to D\gamma$ decays.

*Thursday, July 20, 2023 2:00 PM (20 minutes)*

The distribution amplitudes (DAs) are the universal non-perturbative elements that enter the description of processes involving strong interactions in frameworks like light cone sum rules (LCSR). For light quark systems, they are formulated using the properties of conformal symmetry. However, for heavy quark systems, one faces different challenges. The most important quantities of interest for these systems are the inverse moments of the DAs. There exist several models for these DAs using heavy quark symmetry, and the model parameters are related to the inverse moments. Therefore, having better control over these parameters will help in probing the structure of the hadronic system.
In this talk, I will try to shed some light on these issues and will discuss a possible solution using the experimental data of $D_q^* \to D_q\gamma$ (q=u,d,s) decays. We will compute the model parameters of D-meson DAs by comparing the experimental value of $D_q^* D_q\gamma$ coupling to the one obtained using Light Cone Sum Rules. I will show how such an estimation provides better and complementary results for these unknown parameters.

## Consent

I consent to recording/broadcasting my presentation.

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