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## Pion structure in Minkowski space

*Thursday 2 December 2021 09:50 (20 minutes)*

In this talk I will present a dynamical model for the pion based on the solution of the Bethe-Salpeter equation in Minkowski space. For this end, we use the Nakanishi integral representation of the Bethe-Salpeter amplitude. The input of the interaction kernel has the quark and gluon masses, and also a scale parameter related to the extended quark-gluon vertex. Within this model, we obtain the pion weak decay constant, the valence probability, the LF-momentum distributions, the distribution amplitudes, the probability densities both in the LF-momentum space and the 3D space given by the Cartesian product of the covariant Ioffe-time and transverse coordinates [1]. In addition, we calculated the pion electromagnetic form factor with a good agreement with available experimental data [2].

### References:

1. W. de Paula, E. Ydrefors, J. H. Alvarenga Nogueira, T. Frederico and G. Salme, Phys. Rev. D 103 (2021) no.1, 014002
2. E. Ydrefors, W. de Paula, J. H. A. Nogueira, T. Frederico and G. Salme, Phys. Lett. B 820 (2021), 136494

**Authors:** DE PAULA, Wayne (Instituto Tecnológico de Aeronáutica); YDREFORS, Emanuel (Instituto Tecnológico de Aeronáutica); SALME', Giovanni (INFN - National Institute for Nuclear Physics); FREDERICO, Tobias (Instituto Tecnológico de Aeronáutica)

**Presenter:** DE PAULA, Wayne (Instituto Tecnológico de Aeronáutica)

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