



Contribution ID: 18

Type: Poster

## Vector resonances spin alignment as a probe of spin hydrodynamics

*Wednesday, 6 April 2022 18:30 (4 minutes)*

We argue that a detailed analysis of the spin alignment of vector mesons can serve as a probe of some aspects of spin dynamics in the vortical fluid for which there have been quite a few theoretical developments but relatively little phenomenology:

The degree of relaxation between vorticity and parton spin polarization, and the degree of coherence of the hadron wavefunction at freeze-out.

We show, using a coalescence model, that local spin density and vorticity impact the hadron wavefunction in different ways, and this is much more straight-forward to disentangle for a vector meson than for a spin 1/2 baryon.

We comment on the relevance of this issue for the current lack of consistency between experimental data on Lambda polarization and  $K^*$ ,  $\phi$  spin alignment.

Based on <https://arxiv.org/abs/2104.12941> and ongoing work.

**Primary authors:** TORRIERI, Giorgio; Mr CARVALHO GONÇALVES, Kayman Jhosef (Unicamp)

**Presenter:** Mr CARVALHO GONÇALVES, Kayman Jhosef (Unicamp)

**Session Classification:** Poster Session 2 T02

**Track Classification:** Chirality, vorticity and spin polarization