

# Electromagnetic fields in p+Pb collisions

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We study the correlation between the primordial electromagnetic (EM) fields  $\vec{E}$  and  $\vec{B}$  and the initial matter geometry in p+Pb collisions.

The angular correlation between  $\vec{B}$  and the second eccentricity harmonic  $\vec{\varepsilon}_2$  is substantially diminished in p+Pb compared to heavy ion collisions (HICs), while those between  $\vec{E}$  and the first eccentricity harmonic  $\vec{\varepsilon}_1$  is of similar magnitude. Unlike in HICs, the EM fields in p+Pb are mainly sourced by the protons in the same nucleus and this results in non-zero angular correlations between the  $\vec{E}$  and  $\vec{B}$  fields. This gives rise to interesting phenomenological consequences for heavy quark flow and chiral magnetic effects in p+Pb.

### List of tracks

Chiral magnetic effect and wave, chiral vortical effect

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