



Contribution ID: 776

Type: Poster

## Generation of magnetic field in relativistic heavy-ion collisions

*Tuesday, 5 September 2023 17:30 (2h 10m)*

Various interesting phenomena have been predicted to occur in a quark-gluon plasma produced in relativistic heavy-ion collisions due to a strong magnetic field which is also generated in these collisions. However, none of these predictions has been convincingly confirmed experimentally yet. So, the question is why? Our aim is to systematically discuss the problem of magnetic field generation. In particular, we argue that the currents induced in the plasma, which have been expected to sustain the magnetic field throughout the plasma lifetime, are much smaller than expected. This happens because the quark-gluon plasma is initially mostly composed of gluons while electrically charged quarks appear with a delay.

### Category

Theory

### Collaboration (if applicable)

**Primary author:** SŁOŃ, Patrycja (National Centre for Nuclear Research)

**Co-author:** MRÓWCZYŃSKI, Stanisław (National Centre for Nuclear Research, Warsaw, Poland)

**Presenter:** SŁOŃ, Patrycja (National Centre for Nuclear Research)

**Session Classification:** Poster Session

**Track Classification:** New theoretical developments