



Contribution ID: 251

Type: **Oral presentation**

## **FREE ENERGY AND DIRECT PHOTON EMISSION AT FINITE CHEMICAL POTENTIAL FROM QUARK-GLUON PLASMA**

*Thursday 1 May 2014 11:30 (20 minutes)*

We extend to investigate the evolution of free energy and direct photon production from quark-gluon plasma (QGP) considering finite chemical potential. The evolution of QGP formation at the chemical potential is done through finite value of quark mass. The evolution rate is found to be decreasing with chemical potential. We further study the direct photon emission from fireball of such QGP and found the result to be increasing function of chemical potential in all the channels of photon production. It also shows enhancement of photon emission in comparison to the other theoretical calculation of direct photon productions.

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**Session Classification:** WG4: QCD and Hadronic Final States

**Track Classification:** WG4: QCD and Hadronic Final States