Contribution ID: **62** Type: **Oral presentation**

Coherence and broadening effects in medium induced gluon radiation

Tuesday, 29 May 2012 14:35 (20 minutes)

Radiative interferences in the multi-parton shower is the building block of QCD jet physics in vacuum. The presence of a hot medium made of quarks and gluons is expected to alter this interference pattern. To study such effects, we derive the gluon emission spectrum off an "asymptotic quark" traversing a hot and dense QCD medium at first order in the medium density. The resulting induced gluon distribution gets modified when the new interference terms between the initial and final quark are included. We comment on the possible phenomenological consequences of this new contribution for jet observables in heavy-ion collisions.

Primary author: MARTINEZ GUERRERO, Mauricio (Universidade de Santiago de Compostela)

Co-authors: Dr SALGADO, Carlos (Universidade de Santiago de Compostela); Mr MA, Hao (Universidade de Santiago de Compostela); Dr ARMESTO, Nestor (Universidade de Santiago de Compostela); MEHTAR-TANI, Yacine (Institut de Physique Theorique, CEA Saclay)

Presenter: MARTINEZ GUERRERO, Mauricio (Universidade de Santiago de Compostela)

Session Classification: Parallel IIIB: Jet quenching and energy loss