Contribution ID: **302** Type: **Oral Presentation**

Next to leading order electron-quark interaction

Friday, 8 July 2016 15:20 (20 minutes)

Abstract content
   (Max 300 words)
Formatting &
Special chars

We compute the massless q + e -> q + e t-channel differential cross-section at next-to-leading order in the MS-bar renormalisation scheme. We only consider interactions pertaining to the incoming and outgoing quark. In particular, we first explain how the LSZ formula is modified in MS-bar. We then demonstrate the delicate cancellation of IR-divergences present in the vertex correction, soft gluon emission and hard collinear gluon emission. Such a study is relevant for studying energy loss and running coupling effects in the quark-gluon-plasma.

Apply to be
 considered for a student
   award (Yes / No)?

No

Level for award
 (Hons, MSc,
   PhD, N/A)?

N/A

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

No

Please indicate whether
this abstract may be
published online
(Yes / No)

No

Primary authors: Dr KEMP, Garreth (University of Johannesburg); Dr HOROWITZ, William (University of Cape Town)

Presenter: Dr KEMP, Garreth (University of Johannesburg)

Session Classification: Theoretical and Computational Physics (1)

Track Classification: Track G - Theoretical and Computational Physics