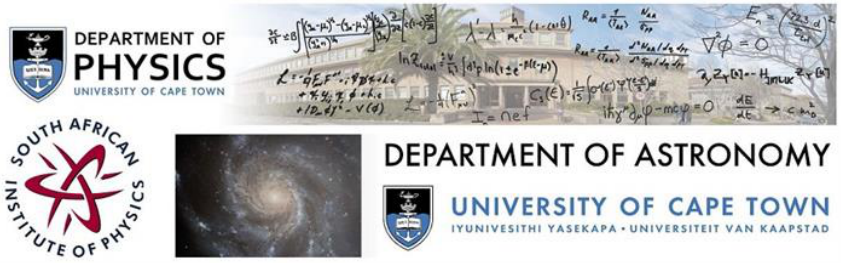

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Next to leading order electron-quark interaction

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

Abstract content
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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.

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