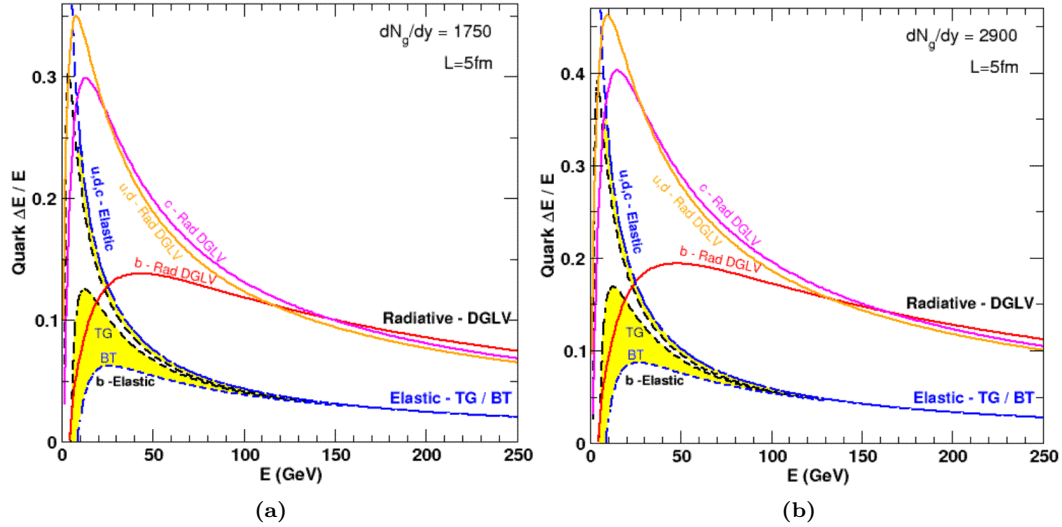


partonic production spectrum,  $dN/dp_T \propto 1/p_T^{n(p_T)}$  (see Appendix B); thus  $R_{AA}$  increases with  $p_T$ . On the other hand, the ASW models mimic the small normalization of the RHIC data by highly suppressing their jets; as discussed in the subsequent paragraphs, the significant quenching leads to a loss of information on the details of the energy loss process, flattening the results. The two ASW models represented in Fig. 4.12 used EKRT-type medium density scaling [402] making the LHC medium  $\sim 7$  times more dense than at RHIC.



**Figure 4.11:** Radiative DGLV and TG and BT elastic partonic fractional energy loss as implemented in WHDG [152] at LHC momenta for all jet species at fixed  $L = 5 \text{ fm}$  and (a)  $dN_g/dy = 1750$  and (b)  $dN_g/dy = 2900$ ; the former density comes from the PHOBOS extrapolation [87, 403], the latter from the KLN model of the color glass condensate (CGC) [400].  $\Delta E/E$  exhibits asymptotic behavior for both energy loss channels as given by the analytic pocket formulae Eq. (4.9) and Eq. (4.10).