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# A model for FL and F2 structure functions at low values of Q2 and x - revisited

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A reanalysis of the model of longitudinal structure function FL(x, Q^2) at low x
and low Q^2 was undertaken, in view of the advent of the EIC. The model includes the kinematic constraint FL ~ Q^4 as Q^2 ⟶ 0. It is based on the photon-gluon fusion mechanism suitably extrapolated to the region of low Q2.

The contribution of quarks having limited transverse momentum is treated phenomenologically assuming that it is described by the soft pomeron exchange mechanism. The ratio R = FL/(F2−FL), with the F2 appropriately extrapolated to the region of low Q^2, is also discussed. Revised models were critically updated, extended to the EIC kinematic region, and e.g. contain new parameterisations of the parton distribution functions.

The knowledge of both F2 and FL structure functions, from the photoproduction to the DIS region is needed in the procedure used to extract polarised and nonpolarised structure functions from the experimental data, especially in the calculations of QED radiative corrections. Thus both functions will be indispensable in the data analysis.

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