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# FLUXES AND GRADIENTS IN THE CONVECTIVE SURFACE LAYER

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Using non-local closure arguments proposed earlier by Cuijpers and Holtslag (based on LES results), a relationship is derived for the vertical gradient of a scalar as a function of height and the surface flux for unstable conditions that accounts for entrainment effects at the top of the boundary layer also. A comparison will be presented with experimental data gathered in 1995 at Cabauw, another LES-based function proposed by Moeng en Wyngaard and various flux-profile relationships that are adaptations of the well-known Businger -Dyer functions, but that show a so-called free-convection behaviour for large values of -z/L.