

QZip _{ζ_s _List}@ \mathbb{E} [L_, Q_, P_] :=

Module [{ ζ , z, zs, c, ys, η_s , qt, zrule, Q1, Q2},

zs = Table [ζ^* , { ζ , ζ_s }];

c = Q /. Alternatives @@ ($\zeta_s \cup zs$) \rightarrow 0;

ys = Table [∂_{ζ} (Q /. Alternatives @@ zs \rightarrow 0), { ζ , ζ_s }];

η_s = Table [∂_z (Q /. Alternatives @@ $\zeta_s \rightarrow$ 0), {z, zs}];

qt = Inverse@Table [K $\delta_{z, \zeta^*} - \partial_{z, \zeta} Q$, { ζ , ζ_s }, {z, zs}];

zrule = Thread [zs \rightarrow qt . (zs + ys)];

Q2 = (Q1 = c + η_s .zs /. zrule) /. Alternatives @@ zs \rightarrow 0;

CF /@ \mathbb{E} [L, Q2, Det [qt] e^{-Q2} Zip _{ζ_s} [e^{Q1} (P /. zrule)]]];