

$$\begin{aligned}
iS_F^{2nd}(p) &= \frac{i}{p - m + e_0^2(p - m)B(\Lambda) + e_0^2(p - m)\Sigma_c(p - m) + i\varepsilon} + \left(\text{higher order} \right) \\
&= \frac{i \left(1 + e_0^2 B(\Lambda) + e_0^2 \Sigma_c(p - m) \right)^{-1}}{(p - m) + i\varepsilon \left(1 + e_0^2 B(\Lambda) + e_0^2 \Sigma_c(p - m) \right)^{-1}} + \left(\text{higher order} \right) \\
&= \frac{i \left(1 - e_0^2 B(\Lambda) - e_0^2 \Sigma_c(p - m) \right)}{(p - m) + i\varepsilon \left(1 - e_0^2 B(\Lambda) - e_0^2 \Sigma_c(p - m) \right)} + \left(\text{different higher order} \right) \\
&= \underbrace{\frac{i}{p - m + i\varepsilon} \left(1 - e_0^2 B(\Lambda) - e_0^2 \Sigma_c(p - m) \right)}_{iS_F(p)} + \left(\text{yet different higher order} \right).
\end{aligned} \tag{13-55}$$

*2nd order
fermion
propagator in
terms of our
symbols*