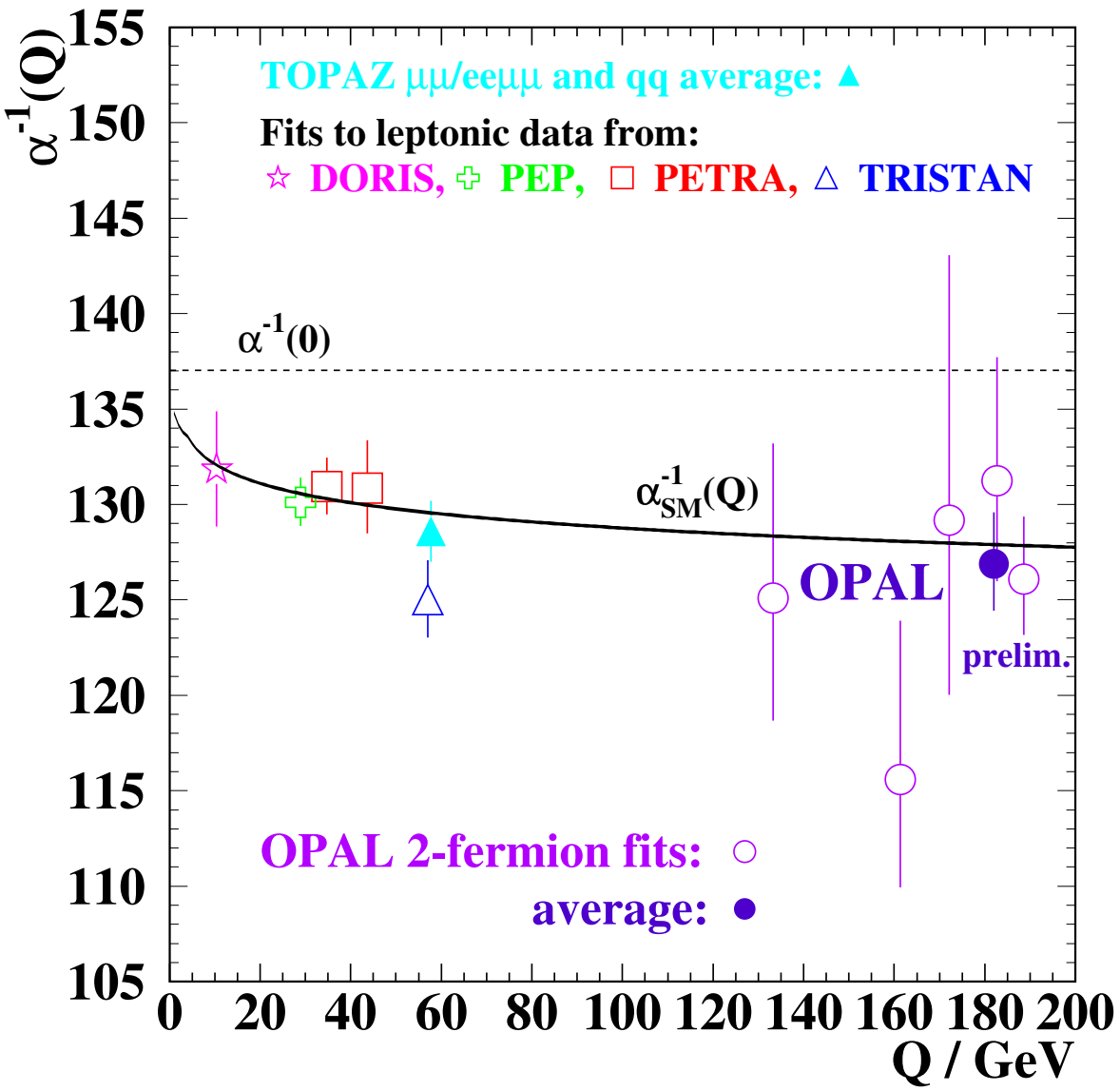
Running of $\alpha_{\rm em}$

- At 130–189 GeV, s-channel $\gamma \simeq$ 2–4 times Z for $\mu^+\mu^-$ and $\tau^+\tau^-$ with $s' \simeq s$
- Use 130–189 GeV cross-section and asymmetry measurements to measure $\alpha_{\rm em}$
- Form χ^2 between measurements and theory (ZFITTER) varying $\alpha_{\rm em}$