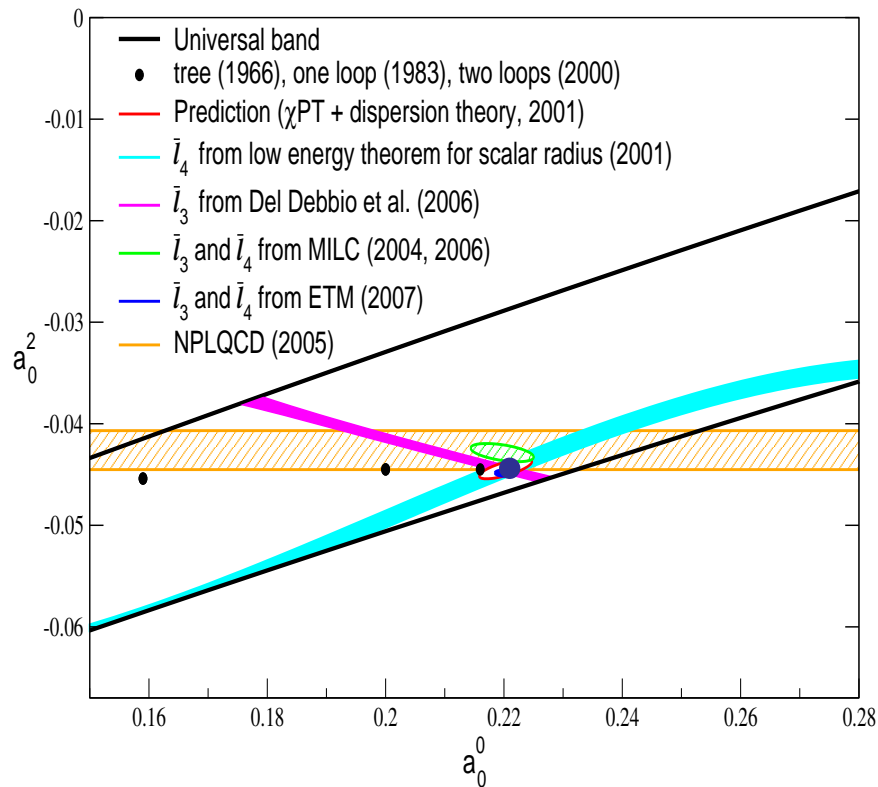


Narrowing scattering lengths

(Leutwyler, private communication)



- Lattice calculations: only statistical errors
→ systematic effects under systematic investigation

- ETMC result

- scalar pion radius (ETMC): $\langle r^2 \rangle = 0.637(26)\text{fm}^2$
Colangelo, Gasser, Leutwyler: $\langle r^2 \rangle = 0.61(4)\text{fm}^2$

- swave scattering lengths:

$$a_{00} = 0.220 \pm 0.002, \quad a_{20} = -0.0449 \pm 0.0003$$