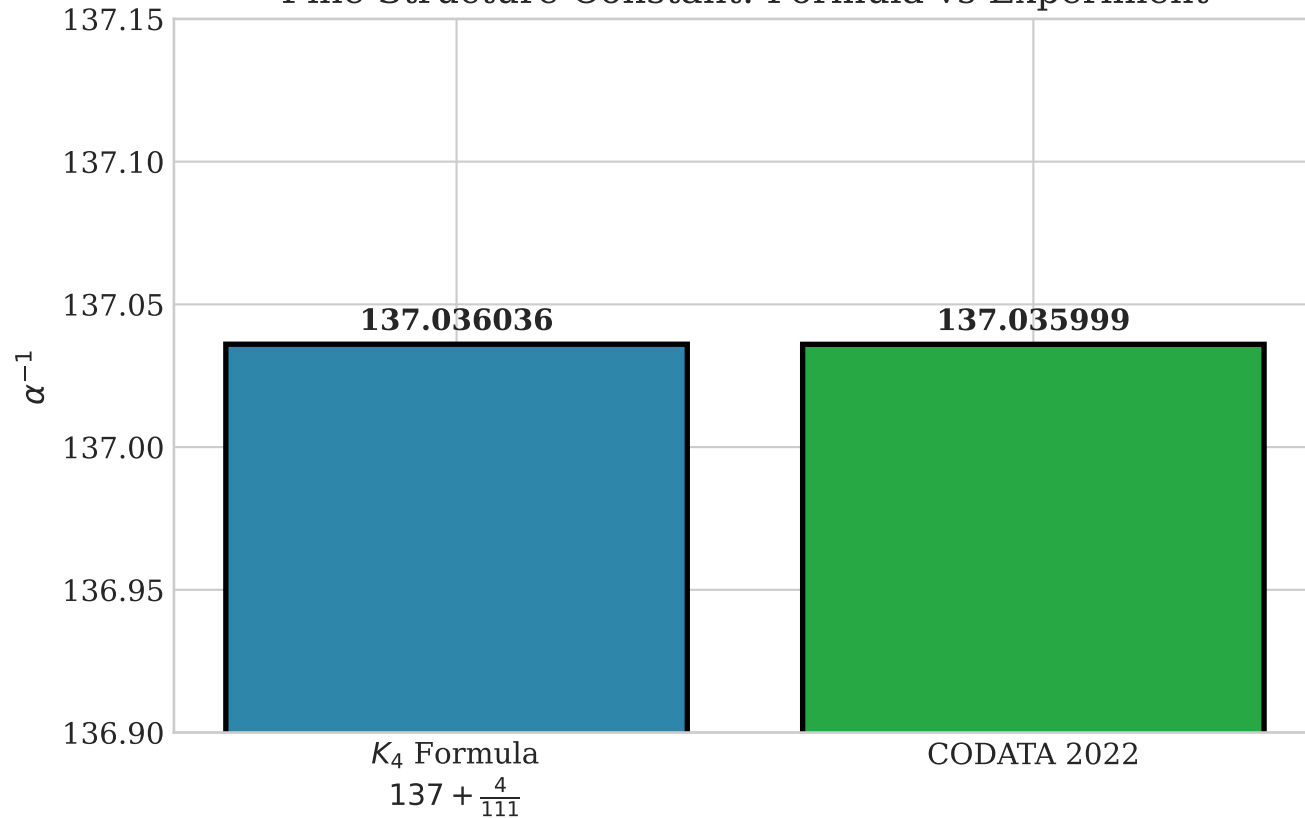


# Fine Structure Constant: Formula vs Experiment



# Derivation Details

## DERIVATION BREAKDOWN

Integer part:  $\lambda^3\chi + \text{deg}^2 = 4^3 \times 2 + 3^2 = 128 + 9 = 137$

Correction:  $V / (\text{deg} \times (E^2+1))$   
 $= 4 / (3 \times 37)$   
 $= 4 / 111$   
 $= 0.036036036\dots$

Total:  $137 + 4/111 = 137.036036\dots$

CODATA 2022:  $137.035999177(21)$

Agreement:  $0.000027\%$   
 $(3.7 \times 10^{-5} \text{ difference})$

The denominator  $111 = \text{deg} \times (E^2+1) = 3 \times 37$   
 is DERIVED from  $K_4$  via one-point compactification.