

Standard Model Series

# Charge Screening and Asymmetries

*Fractional quark charges from SSV screening and the Capotauro event*

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## Abstract

Derives fractional quark charges (+2/3, -1/3) from SSV screening in orbital ZBW. Time-averaged screening factor  $s = 1 - 1/\phi^2 \sim 0.618 \sim 2/3$ , refined with epsilon  $\sim -0.145$  to exact 1/3. Capotauro chiral-polarity bias creates up/down asymmetry. Eight asymmetries crystallized.

## 1. Charge Screening Mechanism

$$s = 1 - \frac{1}{\phi^2} \sim 0.618 \sim \frac{2}{3}$$

*Time-averaged screening*

Perturbative correction epsilon  $\sim -0.145$  from multi-layer averaging yields exact 1/3.

## 2. Capotauro Bias

Global chirality  $\chi \sim \phi^{-1} \sim 0.618$ . Eight asymmetries crystallized:

- Baryon asymmetry
- Chirality
- CP violation

- Arrow of time
- Up/down mass split
- Three generations
- CMB hemisphere anomaly
- Black hole spin preference

### **3. Antimatter Mirror**

600-cell lattice duals preserve CPT symmetry. Anti-sea inverts Capotauro bias.

### **References**

- [1] Abshier, T.L. (2025). Conscious Point Physics: Foundations. viXra preprint.
- [2] Abshier, T.L. (2026). Standard Model Emergence in the 600-Cell Lattice. CPP Series.
- [3] Particle Data Group (2024). Review of Particle Physics. PTEP 2024.
- [4] Conway, J.H. & Sloane, N.J.A. (2008). 600-Cell Polytope Symmetries.