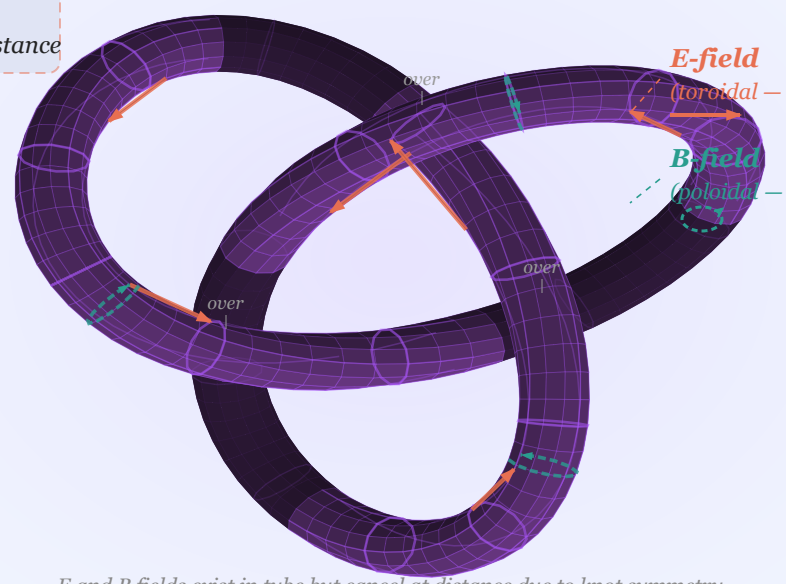
Knotted Dark Matter — Trefoil EM Configuration

Trefoil Knot (3₁)
Simplest non-trivial knot

NO E·B LINKING ☐ Q = 0
E and B field lines do not link ☐ no net charge
Fields exist locally but cancel at distance



E-field
(toroidal — along tube)

B-field
(poloidal — around cross-section)

E and B fields exist in tube but cancel at distance due to knot symmetry

TOPOLOGICAL PROPERTIES

H = 0 ☐ ***Q = 0*** (no charge)

Knot type:	**Trefoil (3₁)**
Stability:	**Cannot unknot without cutting ☐ infinite energy**
Mass:	***m ≈ 0.6 – 1.0 MeV***

COMPARISON: ELECTRON vs DARK MATTER

Electron (simple torus):
H = ±1 · Charged (Q = ±e) · Fields link

Dark matter (knotted torus):
H = 0 · Neutral (Q = 0) · Fields cancel at distance

Both are topologically stable trapped EM energy

TOPOLOGICAL STABILITY

Unknotting a trefoil requires cutting and rejoining ☐ infinite energy barrier.
E fields cancel (3-fold symmetry).
Topologically stable — no net external field.

Figure 3: Dark matter candidate — trefoil knot EM configuration with visible tube surface (H = 0, no charge, topologically stable)