Topological Mass Fit for Leptons

We hypothesize the mass of the n-th lepton is given by the topological formula:

$$S(n) = An^p - Bn \log n \quad \text{with } p = 6.96$$

Fit to Muon and Tau

Using:

$$S(2) = 105.658 \text{ MeV}$$
$$S(3) = 1776.86 \text{ MeV}$$

we solve for constants A and B:

$$A = 0.849014, \quad B = 0.031823$$

Prediction for Electron (n = 1)

Predicted mass:

$$S(1) = 0.849014 \text{ MeV}$$

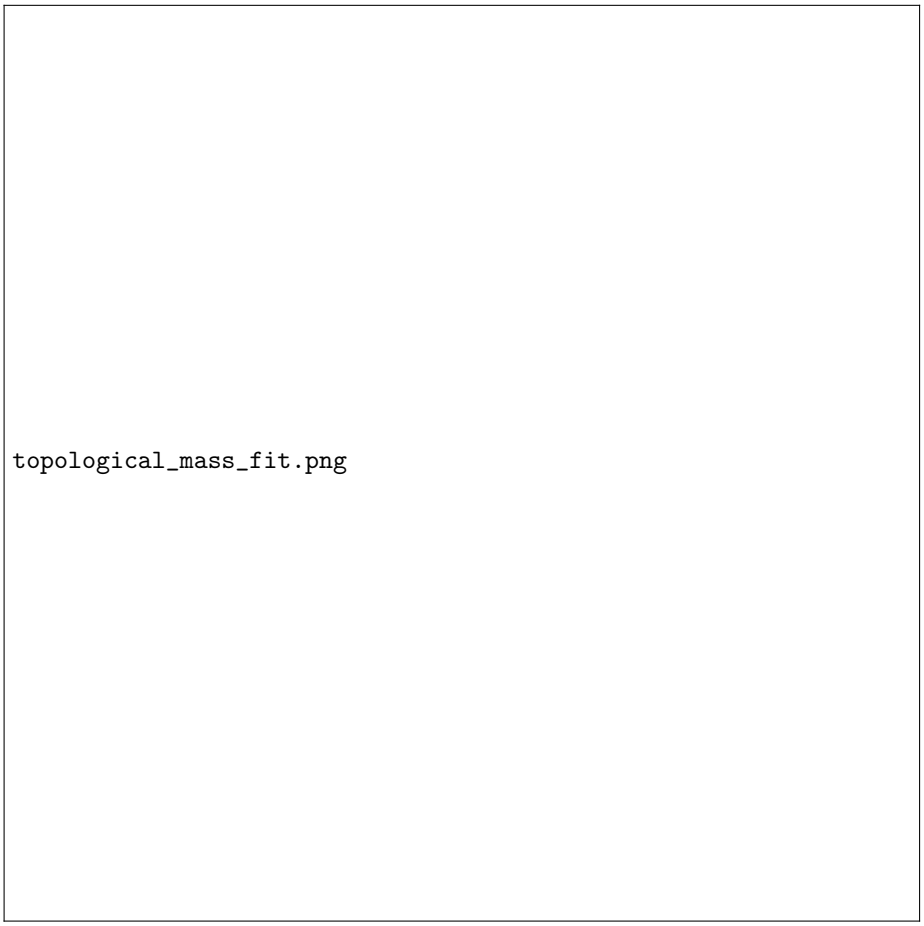
Actual mass:

$$m_e = 0.511 \text{ MeV}$$

Difference:

$$\Delta m = m_e - S(1) = -0.338014 \text{ MeV}$$

This indicates a significant deviation for the electron, supporting the hypothesis that its mass arises from a different mechanism (e.g. electromagnetic self-energy), while the heavier generations follow the topological scaling.



Author's Note

This work was developed solely by Ing. David Jaroš. Large language models (ChatGPT-4o by OpenAI and Gemini 2.5 Pro by Google) were used strictly as assistive tools for calculations, LaTeX formatting, and critical review. All core ideas, equations, theoretical constructs and conclusions are the intellectual work of the author.