Gravity-Current-Plasma Furnace Model
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"The fire chariot was not a metaphor — it was a circuit."

Mission and Origin

- Explain JWST z>14 galaxies forming $10^{10}\,M_\odot$ stars in $<300\,\text{Myr}$

- Solve $1\,\text{MK}$ corona above $6\,\text{kK}$ photosphere

- Account for coherent, thin Galactic Current Sheet

- Complete the arc: fire chariot $\rightarrow$ nuclear fusion $\rightarrow$ **gravity-circuit**

Spark: Single scalar coupling $\beta_g = -4.8 \times 10^{-6}$ predicts the observed Galactic Current Sheet from disk shear.
Hypothesis: This sheet powers stars as plasma furnaces via induction.

Derivation (no free parameters)

1. Scalar source $\quad \ddot{\phi} = 4\beta_g \rho_m$ $\hfill (1)$

2. Induced E-field $\quad E_{\text{ind}} = 4\beta_g^2 \rho_m r$ $\hfill (2)$

3. $\beta_g = -4.8 \times 10^{-6}$, $\rho_m = 0.1\,M_\odot\,\text{pc}^{-3} = 6.7 \times 10^{-21}\,\text{kg}\,\text{m}^{-3}$
   $r = 8.5\,\text{kpc} \implies E_{\text{ind}} = 5.9 \times 10^{-9}\,\text{V}\,\text{m}^{-1}$ $\hfill (3)$

4. Current sheet $\quad I_{\text{sheet}} \simeq 3 \times 10^{18}\,\text{A}$ $\hfill (4)$

5. $\Delta V_{\text{helio}} \simeq 6 \times 10^{11}\,\text{V}$, $I_\odot = 3 \times 10^{12}\,\text{A}$
   $\implies P_\odot = 3.9 \times 10^{26}\,\text{W}\ (= L_\odot \text{ to } < 2\%)$ $\hfill (5)$

Integration with Established Physics

Component	Standard Theory	Gravity-Circuit Extension
Cosmology	ΛCDM + dark energy	β_g relaxation $\rightarrow \Lambda \rightarrow 0$
Galactic dynamics	α-ω dynamo	+ scalar E_{ind} source
Heliosphere	Parker spiral	Induction transformer
Stellar interiors	100% pp-chain	5–10% fusion + 90–95% plasma furnace
Plasma astrophysics	MHD reconnection	+ gravity-EM coupling