The Inhomogeneous Laws

These are obtained from:

$$
\partial_{\mu} F^{\mu \nu} = \mu_0 c J^{\nu} \quad - (1)
$$

where:

$$
J^{\nu} = -A^{(\nu)} \left( \alpha_1 \bar{R}^{\alpha_1 \beta} + \alpha_2 \bar{R}^{\alpha_2 \beta} + \alpha_3 \bar{R}^{\alpha_3 \beta} \right) \frac{1}{\mu_0} \quad - (2)
$$

(Ohm's Law $\sigma = 0$, $\mu = 1, 2, 3$)

The Energy density is:

$$
J^{00} = -A^{(0)} \left( \alpha_1 \bar{R}^{01} + \alpha_2 \bar{R}^{02} + \alpha_3 \bar{R}^{03} \right) \frac{1}{\mu_0} + \alpha_1 \omega_1 b_1 + \alpha_2 \omega_2 b_2 + \alpha_3 \omega_3 b_3 \quad - (3)
$$

$$
\nabla \cdot \vec{E} = J^{a0} = \frac{\rho}{\sigma} - (4)
$$

It is seen that charge density originates in geometric properties of the spacetime. Hence, if gravitational changes of spacetime alter, there will be an effect on the charge density. This is a direct result of differential geometry.
\[ \text{3) Ampère\'s Maxwell Law \quad (\nu = 1, 2, 3) } \]

For \( \nu = 1 \), \( \mu = 0, 2, 3 \)

\[
\mathbf{J}^a = \mathbf{J}^a = -4\pi \left( \frac{V_0 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_b + V_1 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_b + V_2 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_b}{\mu_0 + \omega_i b \mathbf{\tilde{b}}_i - \omega_i b \mathbf{\tilde{b}}_i + \omega_i b \mathbf{\tilde{b}}_i} \right)
\]

For \( \nu = 2 \), \( \mu = 0, 1, 3 \)

\[
\mathbf{J}^a = \mathbf{J}^a = -4\pi \left( \frac{V_0 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_a + V_1 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_a + V_2 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_a}{\mu_0 + \omega_i b \mathbf{\tilde{b}}_i - \omega_i b \mathbf{\tilde{b}}_i + \omega_i b \mathbf{\tilde{b}}_i} \right)
\]

For \( \nu = 3 \), \( \mu = 0, 1, 2 \)

\[
\mathbf{J}^a = \mathbf{J}^a = -4\pi \left( \frac{V_0 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_a + V_1 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_a + V_2 \mathbf{\tilde{R}}_b^a \cdot \mathbf{\hat{e}}_a}{\mu_0 + \omega_i b \mathbf{\tilde{b}}_i - \omega_i b \mathbf{\tilde{b}}_i + \omega_i b \mathbf{\tilde{b}}_i} \right)
\]

Thus:

\[
\nabla \times \mathbf{E}^a = \frac{1}{c^2} \frac{d\mathbf{F}^a}{dt} + \mu_i \mathbf{J}^a
\]

Thus, which the scalar elements of current are given in Eqs. (5) to (7).
The Gauss Law of Magnetism
For all practical purposes:

\[ \nabla \cdot \mathbf{B} = 0 \quad \text{--- (9)} \]

The Faraday Law of Induction
For all practical purposes:

\[ \nabla \times \mathbf{E} + \frac{\partial \mathbf{B}}{\partial t} = 0 \quad \text{--- (10)} \]

If we take into consideration a very large homogeneous current sheet:

\[ j_{_0} = -A_{_0} \left( \frac{1}{\mu} (\nu R_b - \omega_m \mathbf{B}_o) \right) \quad \text{--- (11)} \]

and very tiny terms appear in the right hand sides of Eqs. (9) and (10).