318(3): Spin Connection Resonance in ECE2

In this note, ECE2 theory is used to consider a possible mechanism for spin connection resonance in the Coulomb law. In ECE2 this is:

$$\underline{\nabla} \cdot \underline{E} = \underline{\kappa} \cdot \underline{E} = \rho / \epsilon_0 \quad -(1)$$

where:

$$\underline{\kappa} = 2 \left(\frac{\underline{q}}{r^{(0)}} - \underline{\omega} \right) \quad -(2)$$

in the notation of previous papers. In general:

$$\underline{E} = - \underline{\nabla} \phi - \frac{\partial \underline{A}}{\partial t} + 2 \left(c \omega_0 \underline{A} - \phi \underline{\omega} \right) \quad -(3)$$

The aim is to find Euler Bernoulli resonance from these equations. By antisymmetry:

$$- \underline{\nabla} \phi + 2 c \omega_0 \underline{A} = \frac{\partial \underline{A}}{\partial t} + 2 \phi \underline{\omega} \quad -(4)$$

In the absence of a magnetic potential:

$$\underline{E} = - \underline{\nabla} \phi - 2 \phi \underline{\omega} \quad -(5)$$

$$= - 2 \underline{\nabla} \phi = 4 \phi \underline{\omega}$$

so

$$\underline{\nabla} \cdot \underline{E} = \underline{\kappa} \cdot \underline{E} = \rho / \epsilon_0$$

$$= - 2 \nabla^2 \phi = 4 \phi \underline{\kappa} \cdot \underline{\omega} \quad -(6)$$

$$= 8 \phi \underline{\kappa} \cdot \left(\frac{\underline{q}}{r^{(0)}} - \underline{\omega} \right)$$

2)

It follows that:

$$\nabla^2 \phi + 4\phi \underline{\kappa} \cdot \underline{\omega} = \frac{4\phi}{r^{(0)}} \underline{v} \cdot \underline{\kappa} \quad -(7)$$

In order to find an Euler Bernoulli structure use:

$$\underline{E} = -\underline{\nabla}\phi - 2\phi\underline{\omega} \quad -(8)$$

so

$$\underline{\nabla} \cdot \underline{E} = -\nabla^2\phi - 2\phi\,\underline{\nabla}\cdot\underline{\omega} = \rho/\epsilon_0 \quad -(9)$$

i.e

$$\nabla^2\phi + \left(2\underline{\nabla}\cdot\underline{\omega}\right)\phi = -\rho/\epsilon_0 \quad -(10)$$

In the Z axis: $\quad -(11)$

$$\frac{\partial^2\phi}{\partial Z^2} + k_0^2\phi = A\cos kZ = -\rho/\epsilon_0$$

So the current density ρ is defined by:

$$\rho = -\epsilon_0 A \cos(kZ) \quad -(12)$$

via a circuit design. The solution of eq. (11) is:

$$\phi = \frac{A\cos kZ}{k_0^2 - k^2} \quad -(13)$$

3) and at the point:

$$k = k_0 \quad - (14)$$

the scalar potential becomes infinite:

$$\phi \rightarrow \infty \quad - (15)$$

Similar considerations exactly apply to gravitation. The equivalent of eq. (11) in gravitation is:

$$\frac{\partial^2 \underline{\Phi}}{\partial Z^2} + k_0^2 \underline{\Phi} = A \cos kZ$$

$$= - 4\pi G \rho_m \quad - (16)$$

so at

$$k = k_0 \quad - (17)$$

the gravitational potential becomes infinite:

$$\underline{\Phi} \rightarrow \infty. \quad - (18)$$

So a mass m would experience theoretically infinite attraction to a mass $\underline{M}$.