

211(1) : Derivation of the Evans Identity from the Cartan Identity.

Consider the result of UFT 209:

$$\partial_\mu T^a_{\nu\rho} + \omega^a_{\mu b} \nabla^b_\sigma = \left(\partial_\mu T^\lambda_{\nu\rho} + \Gamma^\lambda_{\mu\sigma} T^\sigma_{\nu\rho} \right) \nabla^a_\lambda$$

and in two more cyclical permutations. ⁻⁽¹⁾ It follows that the Cartan identity is:

$$R^\lambda_{\mu\nu\rho} + R^\lambda_{\rho\mu\nu} + R^\lambda_{\nu\rho\mu} =$$

$$\partial_\mu T^\lambda_{\nu\rho} + \Gamma^\lambda_{\mu\sigma} T^\sigma_{\nu\rho}$$

$$+ \partial_\rho T^\lambda_{\mu\nu} + \Gamma^\lambda_{\rho\sigma} T^\sigma_{\mu\nu}$$

$$+ \partial_\nu T^\lambda_{\rho\mu} + \Gamma^\lambda_{\nu\sigma} T^\sigma_{\rho\mu}$$

-(2)

It is seen that the following is a solution:

$$\partial_\mu T^\lambda_{\nu\rho} + \Gamma^\lambda_{\mu\sigma} T^\sigma_{\nu\rho} = R^\lambda_{\mu\nu\rho} \quad \text{---(3)}$$

This solution shows again that the connection is antisymmetric, otherwise both the torsion and curvature are zero and the space collapses to a flat space.

Consider the case:

2)

$$\mu = \nu \quad \text{--- (4)}$$

after first raising indices in eq. (3) so that:

$$\boxed{\partial_\mu T^{\lambda\nu\rho} + \Gamma_{\mu\sigma}^\lambda T^{\sigma\nu\rho} = R^{\lambda\mu\nu\rho}} \quad \text{--- (5)}$$

From eqs. (4) and (5):

$$\boxed{\partial_\mu T^{\lambda\mu\rho} + \Gamma_{\mu\sigma}^\lambda T^{\sigma\mu\rho} = R^{\lambda\mu\mu\rho}} \quad \text{--- (6)}$$

which is the Evans identity, QED.

Eq. (6) is true for each index μ , so the repeated indices μ can be summed. Eq. (6) is the basis of the CEEF book, which showed in detail that all solutions of the Einstein field equations are incorrect. Notably all the Sig Sang and Black Hole metrics are incorrect, a complete disaster for physics brought on by dogma and over funding.
