

$$\bar{\mathfrak{H}}_{\lambda\mu\nu}^{\lambda} + \bar{\mathfrak{H}}_{\mu\nu} \left( \Lambda - \frac{\lambda \bar{\mathfrak{H}}^{\lambda}}{2} \right) = \frac{8\pi G}{c^4} T_{\mu\nu}$$

$$g_{\mu\nu} = \eta_{mn} E_{\mu}^m e_{\nu}^n$$

$$D_{\mu} \psi = \left( \partial_{\mu} + \frac{1}{4} \omega_{\mu}^{mn} \Gamma_{mn} \right) \psi$$

$${}^x \Gamma^{\mu} = {}^x e_{\mu}^m \Gamma^m$$

$$\sqrt{-g} \bar{\psi} \Gamma^{\mu} D_{\mu} \psi$$

$$e^{\nu n} = e_{\nu}^k \eta^{kn}$$

$$\omega_{\mu}^{mn} = e_{\mu}^m \Gamma_{\mu\nu}^{\nu} e^{\nu n} - (\partial_{\mu} e_{\nu}^m) e^{\nu n}$$

$$\omega_{\mu n}^m e_{\nu}^n = e_{\mu}^m \Gamma_{\mu\nu}^{\nu} - \partial_{\mu} e_{\nu}^m \quad \text{GSW/227}$$

$$\omega_{\mu k}^m = \omega_{\mu n}^m \delta_k^n = \omega_{\mu n}^m e_{\nu}^n e_k^{\nu} = e_{\mu}^m \Gamma_{\mu\nu}^{\nu} e_k^{\nu} - (\partial_{\mu} e_{\nu}^m) e_k^{\nu}$$

$$\text{LHS} = \omega_{\mu k}^m \eta^{kn} = e_{\mu}^m \Gamma_{\mu\nu}^{\nu} e_k^{\nu} \eta^{kn} - (\partial_{\mu} e_{\nu}^m) e_k^{\nu} \eta^{kn} = \text{RHS}$$

$$R_{\mu\nu}^{mn} = \partial_{\mu} \omega_{\nu}^{mn} - \partial_{\nu} \omega_{\mu}^{mn} + \overline{\omega_{\mu} \times \omega_{\nu}}^{mn}$$

$$R = R_{\mu\nu}^{mn} e_{\mu}^{\mu} e_{\nu}^{\nu} R_{\mu\nu}^{mn}$$

$$R + i \bar{\Psi}_{\mu} \Gamma^{\mu\nu\rho} D_{\nu} \Psi_{\rho}$$