

The General Equation

$$\square G^{ab} + G^{ps} (2R_p^a b - \frac{1}{2} g^{ab} R_{ps}) = 0$$

The corresponding Lagrangian

$$\int \dots \int \sqrt{-g} (2R^{ps} R_{ps} - R^2) dx^1 dx^2 \dots dx^n$$

The Scalar Reduction, Derived from the Trace, of the Equation in n Dimensions:

$$\square R + \left(\frac{n-4}{2n-4} \right) (2R^{ps} R_{ps} - R^2) = 0$$

(It is notable that for 2 dims there is degeneracy and for 4 dims reduction to $\square R = 0$.)

The Equation with $\square R^{ab}$ instead:

$$\square R^{ab} + 2R^{ps} R_p^a s^b - R R^{ab} - \frac{g^{ab}}{2n-4} (2R^{ps} R_{ps} - R^2) = 0$$

Further remarks and explanations are given in an associated text file.