

$$-\nabla^2\left(\nabla_\mu\nabla_\nu-\frac{1}{d}g_{\mu\nu}\nabla^2\right)\sigma=\left(\nabla_\mu\nabla_\nu-\frac{1}{d}g_{\mu\nu}\nabla^2\right)\left(-\nabla^2-\frac{2}{d-1}R\right)\sigma.$$