PhysRevD.67.084023

```
from shared import *
     import cdblib
     jsonfile = 'prd67.json'
     cdblib.create (jsonfile)
     # eqn 19 = hamiltonian constraint
    lhs := 0.
                                                                                 # cdb(prd67.eq19.lhs,lhs)
                                                                                 # cdb(prd67.eq19.rhs,rhs)
    rhs := R - ABar_{a b} ABar^{a b} + (2/3) trK**2.
11
     cdblib.put ('prd67.eq19.lhs',lhs,jsonfile)
12
     cdblib.put ('prd67.eq19.rhs',rhs,jsonfile)
14
15
     # eqn 20 = momentum constraint
16
                                                                                 # cdb(prd67.eq20.lhs,lhs)
     lhs := 0.
    rhs := \partial_{a}(ABar^{i a})
          +6 ABar^{i a} \partial_{a}(\phi)
          + ABar^{a b} GammaBar^{i}_{a b}
            - (2/3) gBar^{i a} \partial_{a}(trK).
                                                                                 # cdb(prd67.eq20.rhs,rhs)
21
     cdblib.put ('prd67.eq20.lhs',lhs,jsonfile)
     cdblib.put ('prd67.eq20.rhs',rhs,jsonfile)
     # eqn 27 = conformal transform of \Gamma
     lhs := \Gamma_{a}_{a} = b c.
                                                                                 # cdb(prd67.eq27.lhs,lhs)
    rhs := GammaBar^{a}_{b c}
            + 2 gBar^{a}_{c} \partial_{b}(\phi)
            + 2 gBar^{a}_{b} \partial_{c}(\phi)
31
             - 2 gBar_{b c} gBar^{a e} \partial_{e}(\phi).
                                                                                 # cdb(prd67.eq27.rhs,rhs)
33
     cdblib.put ('prd67.eq27.lhs',lhs,jsonfile)
34
     cdblib.put ('prd67.eq27.rhs',rhs,jsonfile)
```

$$0 = \mathcal{H} = R - \bar{A}_{ab}\bar{A}^{ab} + \frac{2}{3}\text{tr}K^2 \qquad (prd67.eq19.rhs)$$

$$0 = \exp(4\phi)\mathcal{D}^i = \partial_a \bar{A}^{ia} + 6\bar{A}^{ia}\partial_a \phi + \bar{A}^{ab}\bar{\Gamma}^i{}_{ab} - \frac{2}{3}\bar{g}^{ia}\partial_a \text{tr}K \qquad \qquad (\text{prd67.eq20.rhs})$$

$$\Gamma^a{}_{bc} = \bar{\Gamma}^a{}_{bc} + 2\bar{g}^a{}_c\partial_b\phi + 2\bar{g}^a{}_b\partial_c\phi - 2\bar{g}_{bc}\bar{g}^{ae}\partial_e\phi \qquad \qquad (\texttt{prd67.eq27.rhs})$$