Gauss - Codazzi Technology

DP

Pouring equation to write in the future

Do not forget to add the D dimensional case to refer to it when corrections to the action are used

$(R_T)_{abcd} = R^{(4)}_{abcd}$ is the induced curvature on the brane and is related to the bulk curvature $R^{(4+d)}_{\mu\nu\rho\sigma}$ and the extrinsic curvature K^i_{ab}, with $i = \{1...d\}$ through the Gauss-Codazzi (GC) equations:

$$R^{(4+d)}_{\mu\nu\rho\sigma} e^\mu_a e^\nu_b e^\rho_c e^\sigma_d = (R_T)_{abcd} + \delta_{ij}\left(K^i_{ad}K^j_{bc} - K^i_{ac}K^j_{bd}\right), \tag{1}$$

where e^μ_a projects the Riemann tensor of the bulk onto the brane.

References

[1] U. H. Danielsson and T. Van Riet, "What if string theory has no de Sitter vacua?," *Int. J. Mod. Phys. D*, vol. 27, no. 12, p. 1830007, 2018.