Erratum: the local potential approximation in quantum gravity

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Equation (5.7) in the original paper contains a mistake, and it should be corrected to

$$W_0^{\bar{h}}(z, \tilde{R}) = \frac{3(1-z^2) \left(3\partial_t \tilde{f}''(\tilde{R}) - 6\tilde{R}\tilde{f}^{(3)}(\tilde{R}) \right)}{18\tilde{f}''(\tilde{R}) - 2(\tilde{R}-3)\tilde{f}'(\tilde{R}) + 4\tilde{f}(\tilde{R})} + \frac{3(1-z) \left(\partial_t \tilde{f}'(\tilde{R}) - 2\tilde{R}\tilde{f}''(\tilde{R}) + 2\tilde{f}'(\tilde{R}) \right) + 6 \left(\tilde{f}'(\tilde{R}) + 6\tilde{f}''(\tilde{R}) \right)}{18\tilde{f}''(\tilde{R}) - 2(\tilde{R}-3)\tilde{f}'(\tilde{R}) + 4\tilde{f}(\tilde{R})}. \quad (5.7)$$

The error propagates to sections 6 and 7, affecting part of the numerical results, but not the qualitative aspects. In particular, equation (6.5) should be

$$\mathcal{T}_0^{\bar{h}} = \frac{1}{2\tilde{R}^2 \left(-9\tilde{f}''(\tilde{R}) + (\tilde{R}-3)\tilde{f}'(\tilde{R}) - 2\tilde{f}(\tilde{R}) \right)} \times \left\{ \left(\tilde{R}^4 - 54\tilde{R}^2 - 54 \right) \left(\partial_t \tilde{f}''(\tilde{R}) - 2\tilde{R}\tilde{f}^{(3)}(\tilde{R}) \right) - \left(\tilde{R}^3 + 18\tilde{R}^2 + 12 \right) \left(\partial_t \tilde{f}'(\tilde{R}) - 2\tilde{R}\tilde{f}''(\tilde{R}) + 2\tilde{f}'(\tilde{R}) \right) - 36 \left(\tilde{R}^2 + 2 \right) \left(\tilde{f}'(\tilde{R}) + 6\tilde{f}''(\tilde{R}) \right) \right\}. \quad (6.5)$$

Equations (6.7) and (7.6) should be corrected accordingly, as well as the numerical results in sections 7.4 and 7.5. All the qualitative aspects of the results (e.g. section 7.6), as well as the general assessment and conclusions, are unaffected by such corrections.