

ABSTRACT GR 22:

We introduce a new regularization scheme for quantum cosmology in Loop Quantum Gravity using the tools of Quantum Reduce Loop Gravity. In particular we show how the two regularization schemes adopted in Loop Quantum Cosmology can be seen as particular case of our new scheme. Within this new scheme a new corrected effective Hamiltonian for a FRLW ($k=0$) universe is presented and we show how the corrections with respect to Loop Quantum Cosmology lead to a strong departure from the time symmetric bounce scenario, which is replaced by the so called emergent-bouncing universe. The extension of this scheme for the anisotropic case will be discussed.