

Table 2: Evidence against hesitation models

1. The number of galaxies and quasars with red shifts (z) greater than 2.5 is much too large to permit hesitation.
2. Hesitation models with long quasi-static periods are unstable, and will collapse.
3. The observed deceleration parameter, q_0 , in the expansion of the universe contradicts the acceleration required by hesitation.
4. Nuclear chronometers and color-luminosity diagrams for star clusters indicate that stars have existed for only a relatively short time (about 20 billion years).
5. Hesitation requires a non-zero value for the cosmological constant, L , but L is the quantity in physics most accurately measured to be zeroless than 10^{-122} in dimensionless units.
6. Disintegration of a primeval atom (a version of the hesitation model) cannot explain the observed abundances of the elements.
7. The cold bang hesitation models offer no explanation for the observed background radiation, nor do they account for the observed entropy^h of the universe.