|  | $\rho_{\text {max;b/b }}\left(10^{14} \mathrm{~g} \mathrm{~cm}^{-3}\right)$ |  |  | $\rho_{\text {max;f }}\left(10^{14} \mathrm{~g} \mathrm{~cm}^{-3}\right)$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model | GR | $\mathrm{A}(\mathrm{old})$ | $\mathrm{A}(\mathrm{new})$ | GR | $\mathrm{A}(\mathrm{old})$ | $\mathrm{A}(\mathrm{new})$ |
| A1B1G1 | 4.71 | $4.32(-8.3 \%)$ | $4.42(-6.2 \%)$ | 3.30 | $3.36(+1.8 \%)$ | $3.40(+3.0 \%)$ |
| A1B2G1 | 4.37 | $3.98(-8.9 \%)$ | $4.16(-4.8 \%)$ | 3.16 | $3.19(+0.9 \%)$ | $3.25(+2.8 \%)$ |
| A1B3G1 | 3.86 | $3.56(-7.8 \%)$ | $3.81(-1.3 \%)$ | 2.84 | $2.82(-0.7 \%)$ | $2.97(+4.6 \%)$ |
| A1B3G2 | 4.01 | $3.70(-7.7 \%)$ | $3.90(-2.7 \%)$ | 2.78 | $2.78( \pm 0.0 \%)$ | $2.84(+2.2 \%)$ |
| A1B3G3 | 4.19 | $3.93(-6.2 \%)$ | $4.01(-4.3 \%)$ | 2.94 | $2.96(+0.1 \%)$ | $3.01(+2.3 \%)$ |
| A1B3G5 | 4.52 | $4.44(-1.8 \%)$ | $4.46(-1.3 \%)$ | 3.23 | $3.25(+0.6 \%)$ | $3.28(+1.5 \%)$ |
| A2B4G1 | 0.64 | $0.30(-53.1 \%)$ | $0.58(-9.4 \%)$ | - | - | - |
| A3B1G1 | 4.46 | $4.05(-9.2 \%)$ | $4.25(-4.7 \%)$ | 3.16 | $3.18(+0.6 \%)$ | $3.28(+3.8 \%)$ |
| A3B2G1 | 3.88 | $3.47(-10.6 \%)$ | $3.82(-1.5 \%)$ | 2.86 | $2.78(-2.8 \%)$ | $3.02(+5.6 \%)$ |
| A3B2G2 | 3.88 | $3.56(-8.2 \%)$ | $3.80(-2.1 \%)$ | 2.83 | $2.78(-1.8 \%)$ | $2.96(+4.6 \%)$ |
| A3B2G4 | 3.98 | $3.76(-5.5 \%)$ | $3.87(-2.8 \%)$ | 2.54 | $2.54( \pm 0.0 \%)$ | $2.60(+2.4 \%)$ |
| A3B2G4soft | 3.98 | $3.76(-5.5 \%)$ | $3.87(-0.5 \%)$ | 2.68 | $2.69( \pm 0.4 \%)$ | $2.75(+2.6 \%)$ |
| A3B3G1 | 3.02 | $2.43(-19.5 \%)$ | $3.14(+4.0 \%)$ | - | - | - |
| A3B3G2 | 3.08 | $2.77(-10.1 \%)$ | $3.21(+4.2 \%)$ | 2.18 | $<1.50(<-31.1 \%)^{a}$ | $\approx 2.18^{b}$ |
| A3B3G3 | 3.16 | $2.94(-7.0 \%)$ | $3.17(+0.3 \%)$ | 2.39 | $2.20(-7.9 \%)$ | $2.51(+5.0 \%)$ |
| A3B3G5 | 3.66 | $3.55(-3.0 \%)$ | $3.64(-0.5 \%)$ | 2.42 | $2.46(+1.7 \%)$ | $2.54(+5.0 \%)$ |
| A3B4G2 | 0.59 | $0.33(-43.8 \%)$ | $0.58(-1.2 \%)$ | - | - | - |
| A3B5G4 | 0.22 | $0.17(-21.1 \%)$ | $0.22(-0.9 \%)$ | 0.06 | $0.05(-13.9 \%)$ | $0.06(-0.3 \%)$ |
| A4B1G1 | 4.64 | $3.94(-15.1 \%)$ | $4.30(-7.3 \%)$ | 2.98 | $2.85(-4.4 \%)$ | $3.09(+3.7 \%)$ |
| A4B1G2 | 4.46 | $3.88(-7.0 \%)$ | $4.23(-5.2 \%)$ | 2.84 | $2.75(-3.2 \%)$ | $2.96(+4.2 \%)$ |
| A4B2G2 | 4.31 | $3.47(-13.0 \%)$ | $4.08(-2.3 \%)$ | 2.56 | $2.30(-10.2 \%)$ | $2.72(+6.3 \%)$ |
| A4B2G3 | 4.00 | $3.38(-15.5 \%)$ | $3.91(-5.4 \%)$ | 2.30 | $1.55(-32.6 \%)$ | $2.42(+5.2 \%)$ |
| A4B4G4 | 1.23 | $0.83(-32.5 \%)$ | $1.42(+15.4 \%)$ | - | - | - |
| A4B4G5 | 2.22 | $1.87(-15.8 \%)$ | $2.28(+2.7 \%)$ | - | - | - |
| A4B5G4 | 0.47 | $0.35(-27.0 \%)$ | $0.51(+7.2 \%)$ | - | - | - |
| A4B5G5 | 1.72 | $1.26(-26.7 \%)$ | $1.72( \pm 0.0 \%)$ | - | - | - |
| mean error | $15.0 \%$ | $3.8 \%$ |  | $6.0 \%$ | $3.4 \%$ |  |

${ }^{a}$ Although the ring-down oscillations had not been completely damped out during the computation, it seems safe to assume that this model should have reached quasi-equilibrium after a short time.
${ }^{b}$ At the end of our simulation, the maximum density was still decreasing. We expect that an equilibrium would be reached near, perhaps slightly below the relativistic value.

Comparison of the maximum density at bounce $\rho_{\text {max; }}$ b reached during the evolution of the regular core collapse models in CFC (second column) and with the old (third column) and new (fourth column) potential A. The relative error compared to the CFC is indicated in parentheses for the pseudo-Newtonian potentials. The table also shows the maximum density $\rho_{\text {max;f }}$ of the core in its quasi-equilibrium state after ring-down (columns five to seven) if such a state is reached, the error again being given in parentheses. We also give the mean relative error (absolute value).

