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ERRATUM: "ON THE MASS RADIATED BY COALESCING BLACK-HOLE BINARIES" (ApJ, 2012, 758, 63)

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Online-only material: color figure

Recently, a problem was discovered in the code implementing the model described in Barausse (2012), which resulted in a slight underestimation of the rate of massive black-hole mergers at low redshift reported in that paper (see Barausse 2014). This problem slightly affects our Figure 4, which changes as shown below, with the energy radiated by low-redshift mergers becoming somewhat larger. However, all the results, discussions, and conclusions of the paper are unchanged.

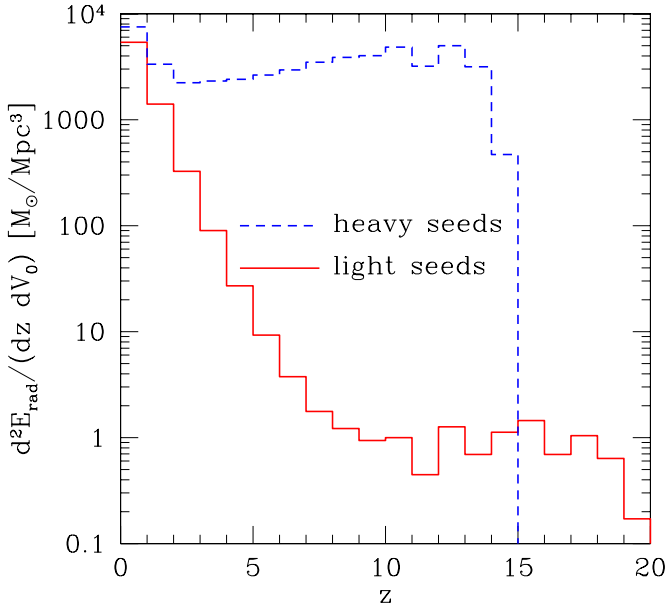

Figure 4. Amended energy emitted by massive black-hole mergers per unit redshift and unit comoving volume, as a function of redshift. The two lines refer either to the "light-seed" scenario (red solid curve) or to the "heavy-seed" scenario (blue dashed line).
(A color version of this figure is available in the online journal.)

As a consequence, the sentence in the text "Finally, we note that by integrating the results of Figure 4, we find that the total energy density in GWs from massive BH binaries at $z = 0$ is $\rho_{\rm GW,mergers} \approx 7.4 \times 10^2\, M_\odot\,{\rm Mpc}^{-3}$ in the light-seed scenario and $\rho_{\rm GW,mergers} \approx 1.8 \times 10^4\, M_\odot\,{\rm Mpc}^{-3}$ in the heavy-seed scenario, corresponding to a cosmological density parameter $\Omega_{\rm GW,mergers} \equiv \rho_{\rm GW,mergers}/\rho_{\rm crit} \approx 5.4 \times 10^{-9}$ (light-seed scenario) or $\Omega_{\rm GW,mergers} \approx 1.3 \times 10^{-7}$ (heavy-seed scenario)." should read "Finally, we note that by integrating the results of Figure 4, we find that the total energy density in GWs from massive BH binaries at $z = 0$ is $\rho_{\rm GW,mergers} \approx 7.2 \times 10^3\, M_\odot\,{\rm Mpc}^{-3}$ in the light-seed scenario and $\rho_{\rm GW,mergers} \approx 5.1 \times 10^4\, M_\odot\,{\rm Mpc}^{-3}$ in the heavy-seed scenario, corresponding to a cosmological density parameter $\Omega_{\rm GW,mergers} \equiv \rho_{\rm GW,mergers}/\rho_{\rm crit} \approx 5.3 \times 10^{-8}$ (light-seed scenario) or $\Omega_{\rm GW,mergers} \approx 3.7 \times 10^{-7}$ (heavy-seed scenario)."

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REFERENCES

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Barausse, E. 2014, MNRAS (erratum)