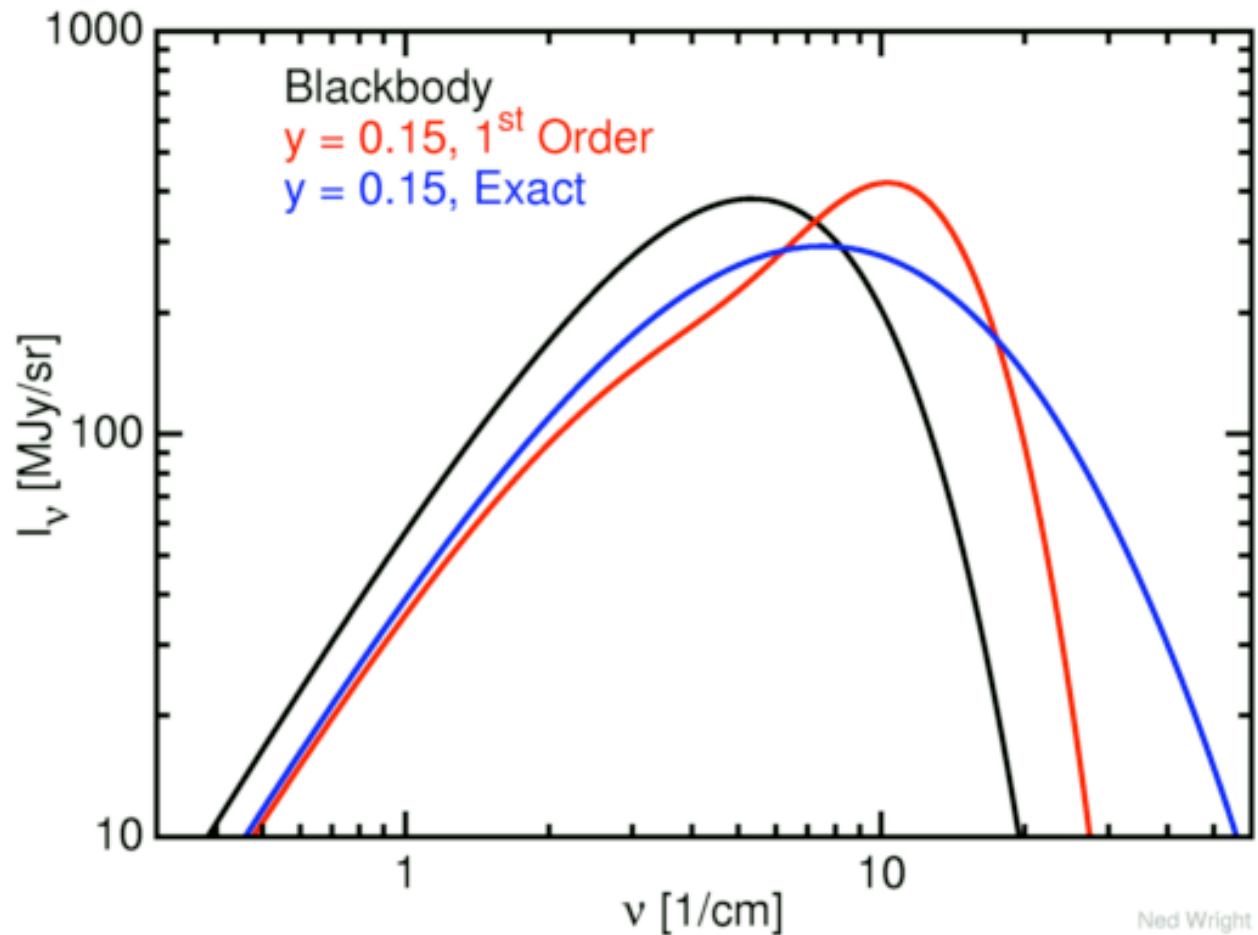


Erratum – SZ Effect

Ned Wright points out to me (and to all on his web site <http://www.astro.ucla.edu/~wright/SZ-spectrum.html>) that the shifted spectrum in Fig. 9.7c (p. 344) is incorrect. This widely quoted shifted spectrum for $y = 0.15$ (with the “notch”), is calculated from the first order expression (A7 of S-Z (1980)) quoted in Problem 9.52 (p. 353). Although the first-order expression is perfectly OK for scattering by clusters where $y \approx 10^{-4}$, it is inappropriate for a y factor as large as 0.15. The full expression is A8 of S-Z (1980). When the $y=0.15$ case is calculated with the full expression (A8 of S-Z (1980)), there is no notch. I present here Ned’s figure illustrating the original spectrum, the inappropriate one for $y = 0.15$, and the exact one for $y = 0.15$.



Reference:

Sunyaev and Zeldovich (1980, ARAA, 18, 537)

8 August 2009