
2. [5 pts] In the *Physics Today* article by Collins, August, 1995, vol. 48, no. 8, p. 17, it is stated that a Bose-Einstein condensate of about 2000 $^{87}$Rb atoms forms at a temperature of $170 \times 10^{-9}$ K. Use the theory of the condensate from the textbook to estimate the concentration of Rubidium atoms in the sample. What is the mass density? Assuming a sample in the form of a sphere, what is the radius?