Radiative Processes & Radiation Transport

Homework #3
You Don't need to turn in this HW
(But you are strongly urged to do it by September 29)

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1. (80 points) Rybicki & Lightman problems 2.3, 3.1, 3.2 (except part e), 3.4 (except part b).

2. (20 points) Estimate the brightness of the day time sky compared with the brightness of the direct sun; brightness is the flux you receive per unit solid angle. Ignore the zenith to horizon variation of sky brightness, i.e. estimate the average brightness of the sky.

(Problem 2 deals with Rayleigh scattering. You are NOT being asked to derive anything precisely. It is meant to check your physical understanding and ability to apply the concepts taught in the class to estimate something you see all the time (sky). Use common sense and make use of any approximation that helps you to estimate the brightness/luminosity to within an order of magnitude.)