

PHYS 503/629 – HOMEWORK No. 3 – DUE TUESDAY, 4/19/2005

Problem 1. Problem 12.4 of Hartle's book.

Problem 2. Problem 12.14 of Hartle's book.

Problem 3. Problem 12.26 of Hartle's book.

Problem 4. (Only for 629 level) Find the Penrose diagram for the naked Schwarzschild singularity:

$$ds^2 = -(1 + 2M/r)dt^2 + (1 + 2M/r)^{-1}dr^2 + r^2d\Omega_2^2;$$