

Homework 5, due 4/21, 10pm

1. [5pts] For the PDE system

$$u_x + 2u_y = u^2, \quad u(x, 2x) = 1$$

- (a) [2pts] Find the characteristics, i.e., the projection L_p of characteristic curves on x - y plane.
- (b) [3pts] Discuss the existence and uniqueness of solution