18.306 Advanced Partial Differential Equations with Applications
Fall 2009

Lecture 16 2009 11 02 MON

TOPICS: Continue with Hamilton-Jacobi equation. Characteristics, strips, and Monge cones. Eikonal as characteristic equation for wave equation in 2-D and 3-D.

Continue with lecture 15 and the equation H(u, p, q, x, y) = 0.
The characteristics are curves in 5-D space.
Interpretation of the characteristics as characteristic "strips", in 3-D.
Example: Eikonal equation, and Monge cones.

Eikonal equation as the equation for the characteristic surfaces
of the wave equation in 2 or 3 D.