18.306 Advanced Partial Differential Equations with Applications
Fall 2009

Lecture 10 2009 10 13 TUE

TOPICS: Shocks in the presence of source terms. Example.
        Riemann problems and Godunov's type methods.

Shocks for equations with source terms.
Example:
 $u_t + (0,5*u^2)_x = 1.$
 Study characteristics, crossings and shock formation.
Derivation of the RH conditions.
Entropy conditions.

Riemann problems and numerical solutions. Godunov's type methods.
Whole problem is encoded into the Riemann Problem, including
the R.K. jump conditions and Entropy cond. If you can do the
R.P., then you have, in principle, everything.