

# Differences (from Strauss) (12)

## Diffusion / Heat Eq.

- 1) Infinite speed of propagation
- 2) Singularities erased / smoothed out immediately
- 4) Time has a direction  $t > 0$
- 6) Has extremum principle
- 8) Energy is dissipated / decays
- 10) Information is lost / dissipated

## Wave Equation (advection)

- 2) Finite speed
- 3) Singularities transported along characteristics
- 5) Time has no direction
- 7) Has no max/min principle
- 9) Energy is conserved
- 11) Information is transported