Notes

March 26, 2014

lesson 17

this stuff is like the prototype solution setting up method of characteristic lines, we'll see more of this later.

Today we look at Alembert's solution

PDE	$u_{tt} = c^2 u_{xx}$	$c > 0$	$\infty < x < +\infty$	$0 < t < \infty$
IC	$\left.\begin{array}{r} u(x,0) = f(x) \\ u_t(x,0) = g(x) \end{array}\right\}$		$\infty < x < +\infty$	

change independent variables

$$\xi = x + ct$$
$$\eta = x - ct$$

point will get $u_{\xi\eta}$

See page 130(146) for more explanation