1077-35-2619 **Jerry L Bona** and **Hongqiu Chen*** (hchen1@memphis.edu), University of Memphis, Deparmtent of Mathematical Sciences, Memphis, TN 38152. *Initial-boundary value problem for coupled nonlinear dispersive equations.* Preliminary report.

We consider the following system of nonlinear dispersive equations

$$\begin{cases} u_t + u_x - u_{xxt} + (Au^2 + Buv + Cv^2))_x = 0, \quad x \in [0, L],\, t \geq 0 \\ v_t + v_x - v_{xxt} + (Du^2 + Euv + Fv^2)_x = 0, \quad x \in [0, L],\, t \geq 0 \\ u(0,t) = a(t), \quad u(L,t) = b(t) \\ u(0,t) = c(t), \quad u(L,t) = d(t) \\ u(x,0) = u_0(x), \quad v(x,0) = v_0(x), \quad x \in [0, L] \end{cases}$$

where $L > 0$ is given number, $u = u(x,t), v = v(x,t)$ are functions defined on $[0, L] \times \mathbb{R}^+$ and $A, B, \cdots F \in \mathbb{R}$ are constants. We discuss conditions to have the problem well-posed both locally and globally in time. (Received September 22, 2011)