1064-35-323 **H Chen*** (hchen1@memphis.edu), Department of Mathematical Sciences, University of Memphis, Memphis, TN 38152, and **Jerry L Bona** and **Ohannes A Karakashian**. *Solitary waves and stability of some systems of nonlinear, dispersive equations.*

Considered here are coupled systems of equations

$$\begin{cases} u_t + u_{xxx} + P(u,v)_x = 0 \\ v_t + v_{xxx} + Q(u,v)_x = 0 \end{cases}$$

of KdV-type, where $u = u(x,t)$ and $v = v(x,t)$ for $x \in \mathbb{R}, t \geq 0$, $P(u,v)$ and $Q(u,v)$ are quadratic polynomial of variables u and v, more precisely, $P(u,v) = Au^2 + Buv + Cv^2$ and $Q(u,v) = Du^2 + Euv + Fv^2$, in which $A, B, \cdots, F$ are real number constants. For most of such P and Q, we show that the system posses hyperbolic square solitary-wave solutions, some of them are orbitally stable. (Received September 15, 2010)