1067-76-822   **Mark A. Hoefer*** (`mahoefer@ncsu.edu`), Dept of Mathematics, North Carolina State University, Box 8205, Raleigh, NC 27695. *Oblique Shock Waves in Dispersive Eulerian Fluids.*

Two-dimensional, non-stationary oblique shock waves in a class of dispersive Eulerian fluids will be constructed using Whitham averaging. This construction takes advantage of irrotationality and recently developed methods for Whitham averaging of one-dimensional, non-integrable equations. General properties of weak non-stationary oblique shocks and their connection to stationary oblique shocks will be given. Example applications to Nonlinear Schrödinger (NLS) flows, water waves, ion-acoustic plasma, and optical media with saturable nonlinearity will be presented. Connections to supersonic dispersive, NLS flow over corners will also be discussed. (Received September 15, 2010)