1070-35-16   **David M. Ambrose***, 3141 Chestnut Street, Philadelphia, PA 19026, and **J. Douglas Wright**.
Some Existence Results for Equations with Degenerate Dispersion.

Unlike equations with linear dispersion, such as the KdV or Benjamin-Ono equations, there is almost no existence theory for equations with degenerate dispersion, such as the Rosenau-Hyman compacton equations. We present a class of equations with degenerate dispersion for which we are able to establish a priori estimates in Sobolev spaces. In our various cases, these estimates lead to existence of either weak or strong solutions, either locally or globally in time. (Received November 29, 2010)