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John B. Gonzalez* (johngonz@alum.mit.edu), Northeastern University, Department of Mathematics, Room 567 Lake Hall, 360 Huntington Avenue, Boston, MA 02115. *Solutions of Nonlinear Dispersive Equations in Spaces of Functions Having Prescribed Asymptotics*. Preliminary report.

In this talk we shall discuss some well-posedness results for the Korteweg-De Vries, modified Korteweg-De Vries, and nonlinear Schrödinger equations in spaces of functions which admit asymptotic expansions at infinity in decreasing powers of x . We show that an asymptotic solution differs from a genuine solution by a smooth function that is of Schwartz class with respect to x and that solves a generalized version of the respective equation. The latter equations are solved by discretization methods. (Received January 21, 2010)