1163-35-692 **B. Dodson**, **T. Spencer** and **Avy Soffer*** (soffer@math.rutgers.edu). *Evolution of NLS with Bounded Initial Data.*

We study the nonlinear Schrodinger equation (NLS) with bounded initial data which does not vanish at infinity. Examples include periodic, quasi-periodic and random initial data. On the lattice we prove that solutions are polynomially bounded in time for any bounded data. In the continuum, local existence is proved for real analytic data by a Newton iteration scheme. Global existence for NLS with a regularized nonlinearity follows by analyzing a local energy norm (arXiv:2003.08849 [math.AP], J.Stat.Phys, 2020). This is a joint work with Ben Dodson and Tom Spencer. (Received September 11, 2020)