1125-33-1387   **Bernard Deconinck*** (`deconinc@uw.edu`) and **Benjamin L Segal**. *Analyzing the stability spectrum for elliptic solutions of the focusing NLS equation.*

The one-dimensional focusing cubic nonlinear Schroedinger (NLS) equation is one of the most important integrable equations, arising in a multitude of applications. The stability of the stationary periodic solutions of NLS is well studied, leading to, for instance, the iconic figure-eight spectrum for its cnoidal wave solutions. We present an explicit expression for the linear stability spectrum of both the trivial- and nontrivial-phase solutions. We use this expression to generate many explicit results about the spectrum. (Received September 16, 2016)