1116-VB-1483 **Daniele Garrisi*** (daniele.garrisi@gmail.com), Inha University, Inha-ro 100, College of Mathematics Education 5W443, 402751, Incheon. *Orbital stability of standing-wave solutions to the non-linear Schroedinger equation in dimension one.* Preliminary report.

The orbital stability of standing-wave solutions to the non-linear Schrödinger equation

$$i\partial_t\varphi(t,x) + \Delta\varphi(t,x) + |\varphi(t,x)|^{p-2}\varphi(t,x) = 0$$

relies on the Concentration-Compactness Theorem of P. L. Lions and the fact that there is only one positive, symmetric minimum to the energy functional

$$E(u) = \frac{1}{2}\int_{\mathbb{R}^n} |\nabla u(x)|^2 dx - \frac{1}{p}\int_{\mathbb{R}^n} |u(x)|^p dx$$

on the constraint

$$S = \{u \in H^1(\mathbb{R})^n \mid \|u\|_{L^2} = 1\}.$$

When more general non-linearities are considered, it is not clear whether this uniqueness features still holds. We illustrate how it is possible obtain orbital stability results in cases where no a-priori assumption can be made on the uniqueness of minima of the variational problem we considered. (Received September 20, 2015)