On orbital stability/instability of nonlinear Schrödinger equations

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In this talk, we consider the orbital stability/instability of bound states of nonlinear Schrödinger equations. In particular, we show that if a bound state is not trapped by the energy and conditionally asymptotically stable, then it is orbitally unstable. We further, discuss the nesessary condition for conditional asymptotic stability. This talk is based on the joint work with Scipio Cuccagna (Trieste University) [1].

References

[1] Scipio Cuccagna and Maeda Masaya, On orbital instability of spectrally stable vortices of the NLS in the plane, Journal of nonlinear Science Online first (2016).