1099-35-115 **Zaher Hani***, 251 Mercer Street, New York, NY 10012, and **Benoit Pausader**, **Nikolay Tzvetkov** and **Nicola Visciglia**. *Modified Scattering and infinite cascades for the cubic Schroedinger equation on product spaces.*

We consider nonlinear Schroedinger equations posed on various quotients of Euclidean space. Depending on the strength of the dispersion (measured in terms of the decay of linear solutions), the asymptotic behavior can vary dramatically between scattering (asymptotically linear behavior) to the "terra incognita" of the long-time dynamics of dispersive equations on compact domains. We will focus on the "in-between" case of non-compact quotients that exhibit slowest decay. The key feature is the important role played by the resonant dynamics in this case, which can modify the asymptotic behavior substantially away from linear dynamics. One consequence of this analysis is the construction of global solutions to the defocusing and focusing problems with infinitely growing high Sobolev norms (signalling infinite forward energy cascade). This work is based on joint work with Benoit Pausader as well as (for the cubic case) Nikolay Tzvetkov and Nicola Visciglia. (Received February 03, 2014)