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**Darrin Speegle\*** (speegled@slu.edu). *Linear Independence of Time-Frequency Shifts of Functions with Decay*. Preliminary report.

The Heil-Ramanathan-Topiwala (HRT) Conjecture states that time-frequency shifts of  $L^2$  functions are linearly independent; that is, if  $0 \neq f \in L^2$  and

$$\sum c_{jk} e^{2\pi i a_k x} f(x - b_k) = 0,$$

then  $c_{jk} = 0$  for all  $j, k$ .

In this talk, we describe decay conditions on  $f$  that guarantee the linear independence of time-frequency shifts, both in the general case as well as the special case when the time-frequency shifts are along a lattice. The talk surveys work that is joint with Radu Balan, Marcin Bownik, Chris Heil and Kasso Okoudjou. (Received September 15, 2014)