THE HRT CONJECTURE

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Given a non-zero square integrable function g and $\Lambda = \{(a_k, b_k)\}_{k=1}^N \subset \mathbb{R}^2$ let

$$\mathcal{G}(g, \Lambda) = \{e^{2\pi i b_k \cdot} g(\cdot - a_k)\}_{k=1}^N.$$

The Heil–Ramanathan–Topiwala (HRT) Conjecture is the question of whether $\mathcal{G}(g, \Lambda)$ is linearly independent. For the last two decades very little progress has been made in settling the conjecture. In the first part of the talk, I will give an overview of the state of the conjecture. I will then describe some recent attempts in settling the conjecture for some special classes of functions.