1172-42-240 **Jakob Lemvig*** (jakle@dtu.dk), Richard Petersens Plads, building 324, 2800 Kgs. Lyngby, Denmark. *On the non-frame property of Gabor systems generated by Hermite functions.* Preliminary report.

Frame set problems in Gabor analysis ask the question for which sampling and modulation rates the corresponding time-frequency shifts of a generating window allow for stable reproducing formulas of L2-functions. In this talk we consider frame sets for Hermite functions, and we show how certain modular characteristics of the Zak transform of Hermite functions play a role in these frame set problems.

It is known that the so-called frame set conjecture is false for Hermite functions of order 4n-2 and 4n-1, where n is a positive integer. We prove that the Gabor frame set conjecture for Hermite functions are also false for all orders of the form 4n and 4n+1, where n is a positive integer. As a conclusion, the frame set conjecture of Hermite functions is false for all order strictly larger than one; the only open case being the Hermite function of order one.

The is joint work with my students Andreas Horst and Allan Erlang Videbæk (Received August 30, 2021)