



Seminar/Talk

# The nonlinear Schrödinger equation for orthonormal functions

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Host: Robert Seiringer

In this talk I will discuss a generalization of the usual nonlinear Schrödinger equation to systems of  $N$  orthonormal functions. We can prove the existence of ground states for infinitely many  $N$ 's (including  $N=2$ ) when the exponent  $p$  of the nonlinearity is less than  $\min(2, 1+2/d)$ , in dimension  $d \geq 1$ . On the contrary, in dimension  $d=1$  we show that there is no minimizer for all  $N \geq 2$  when  $p=2$ . Links with best constants in the Lieb-Thirring inequality will also be mentioned. Based on joint works with Rupert L. Frank, David Gontier & Faizan Q. Nazar.

**Thursday, January 16, 2020 04:00pm - 06:00pm**

Heinzel Seminar Room / Office Bldg West (I21.EG.101)



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