On the Schrödinger equation for the sublaplacian on complex spheres

(joint work with V. Casarino)

Marco Peloso

Let S be the sphere in C^n and let L be the sublaplacian on S. We study the solution of the Schrödinger equation $(iD_t + L)v = 0$, subject to the initial condition $v(0, .) = v_0$. Using sharp L^p estimates for the spectral projection operators by Casarino, and adapting some ideas by Burq, Gerard and Tzvetkov we prove Strichartz estimates for the solution v, that depend on the homogenous dimension of S. We discuss the optimality of such estimates and use them to study the nonlinear Schrödiger equation.