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Theoretical Physics Seminar Series

Dynamics of excited BPS vortices carrying two or three magnetic field quanta

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Abstract: In this talk my purpose is to describe how excited vortices from non excited BPS in the Abelian Higgs model scatter in a far more complex manner than in the geodesic approach over the BPS moduli space. I will concentrate in the $N=2$ magnetic flux case where a fractal structure showing a different number of vortices at different windows in the initial velocity arises. The conceptual framework where this chaotic structure emerges is based on the collective coordinates effective dynamics. The outcome will be compared with the results offered by the numerical analysis performed by Morgan Rees in the full AHM. Time permitting I will sketch preliminary ideas about the existence of similar structures in the system of $N=3$ excited vortices.

Prof. A. Chamorro Seminar Room, Theoretical Physics Seminar Room

Wednesday, Oct 9th, 2024

Time: 11:40 am