

02 de dezembro de 2024 - 16h00 - Sala F-147 (IFSC/USP)

"Café com Física" – Ensemble of topological defects and the confining flux tube



Café com Física



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Ensemble of topological defects and the confining flux tube

Understanding how the confining flux tube is formed in $SU(N)$ Yang-Mills theory is an important step towards understanding color confinement in QCD. It is known that center vortices play an important role in this regard, but it remains a mystery how to take them into account in a non-perturbative manner. One way is by performing ensembles of percolating vortices using a phenomenological model. In this talk, a few of these ensembles will be explored and the importance of including attached monopoles and non-Abelian degrees of freedom will be highlighted. On top of that, it will be shown how this modeling can lead to an effective field representation and how the associated classical solutions, in the form of topological solitons, can accommodate a myriad of lattice results such as transversal profiles, asymptotic scaling, and N -ality, etc.



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