Hurwitz Zeta function and its application in condence matter physics.

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Abstract: In this paper we are studying the Klein-Gordon oscillator [1] in cosmic string space-time, then we study the interaction of the matter in cosmic string theory and the deformation of space. we want to compare the two systems in the presence and absence of topological defects in some property physics (thermal and magnetic properties[2]).
Among the mathematical models, we choose the Hurwitz Zeta[3] as an effective method for calculating the sums that are used in calculating the actual values of the thermal properties of the physical system.
Finally, we want to see the mathematical and physical effect on the approximations of the functions in order to choose the model that can be used in the future to study such phenomena.

Keywords: Cosmic String , Klein-Gordon, Hurwitz-Zeta .

References

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