

A Deep Explanation for the Formation of Force as a Foundational Law of Physics by Incorporating Unknown Degrees of Freedom into Space

Authors : Mohsen Farshad

Abstract : Information and force definition has been intertwined with the concept of entropy for many years. The displacement information of degrees of freedom with Brownian motions at a given temperature in space emerges as an entropic force between species. Here, we use this concept of entropy to understand the underlying physics behind the formation of attractive and repulsive forces by imagining that space is filled with free Brownian degrees of freedom. We incorporate the radius of bodies and the distance between them into entropic force relation systematically. Using this modified gravitational entropic force, we derive the attractive entropic force between bodies without considering their spin. We further hypothesize a possible mechanism for the formation of the repulsive force between two bodies. We visually elaborate that the repulsive entropic force will be manifested through the rotation of degrees of freedom around the spinning particles.

Keywords : entropy, information, force, Brownian Motions

Conference Title : ICCTP 2022 : International Conference on Computational and Theoretical Physics

Conference Location : New York, United States

Conference Dates : June 02-03, 2022