

An Application of the Weak Gravity Conjecture

Work of Professor Brett McInnes

In our Universe, there is a definite technical sense in which gravity is weaker than the other known forces of Nature. The Weak Gravity Conjecture (Cumrun Vafa, Harvard) is the idea that this is necessarily the case, and not accidental.

In his work, Prof Brett McInnes has applied this conjecture to a particular kind of five-dimensional black hole, and has shown that this may resolve a serious problem with a proposed application of string theory (which unifies all of the forces of Nature) to the study of matter at the highest attainable densities and temperatures.

Reference:

B. McInnes, "Holographic Dual of the Weak Gravity Conjecture", Nuclear Physics, Section B, (2020).