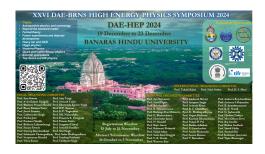Contribution ID: **444**   Type: **Postar**

ISCOs and the weak gravity conjecture bound in higher derivative theories of gravity

We study circular orbits of charged particles in spherically symmetric AdS black holes in general higher derivative theories of gravity in arbitrary dimensions, and their limiting ISCOs (innermost stable circular orbits). The dual interpretation is in terms of heavy-light double twist conformal field theory (CFT) operators in the large spin limit, whose anomalous dimensions can be extracted from the binding energy of charged probes in the bulk, in a certain large orbit limit. We relate our result of anomalous dimension with the Weak Gravity Conjecture (WGC) bound known for self-repulsive particles. The ISCOs exist until the limit set by the WGC bound.

Field of contribution

Theory

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