Poster #19

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Stable Bound Orbits around Black Rings

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arXiv: 1006.3129 [hep-th]

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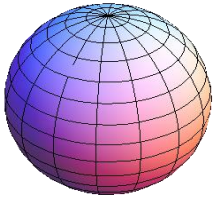
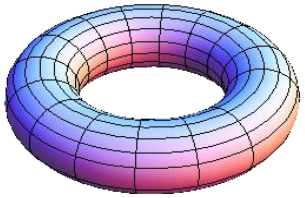
Particle Motion around a Black Object

- Black Objects (e.g. $D = 5$)



Black Hole
S^3



Black Ring
$S^2 \times S^1$

- Higher-dim. BHs have no stable circular orbits

$$V_{\text{eff}}^{(D)}(r) = \frac{L^2}{r^2} - \frac{M}{r^{D-3}} + O\left(\frac{1}{r^{D-1}}\right)$$

※ Centrifugal force dominates in far region.

- How about black ring case?

Main results

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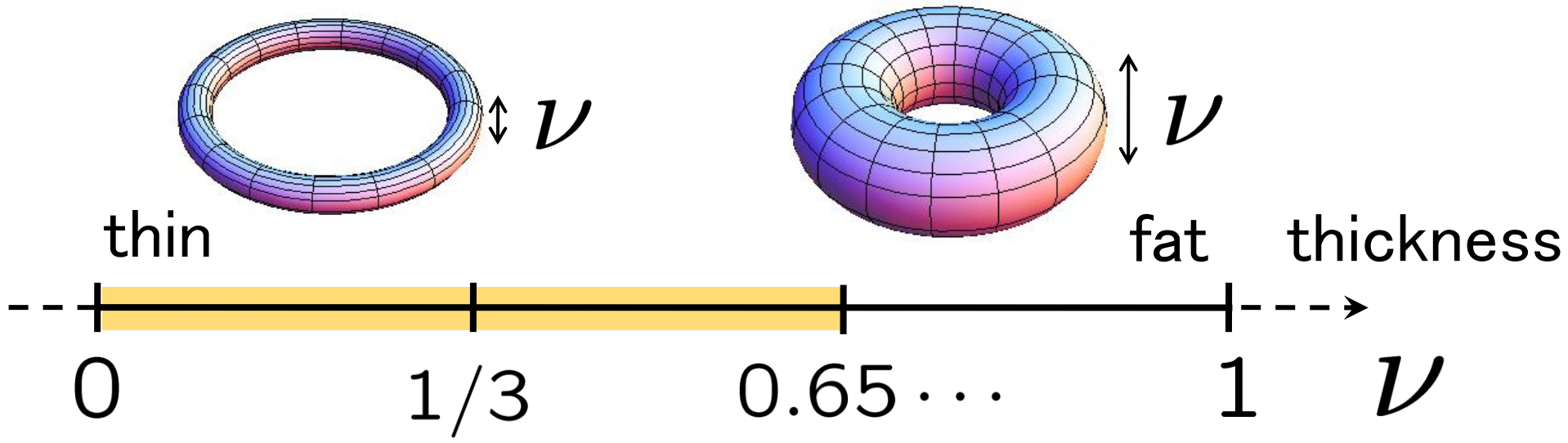
- Stable bound orbits (SBO) can exist near the ring axis in the restricted parameter region:



- In addition, radius of SBO can be infinitely large in the case

$$0 < \nu < \frac{1}{3}$$