

High velocity BH collision in 5 dimensions

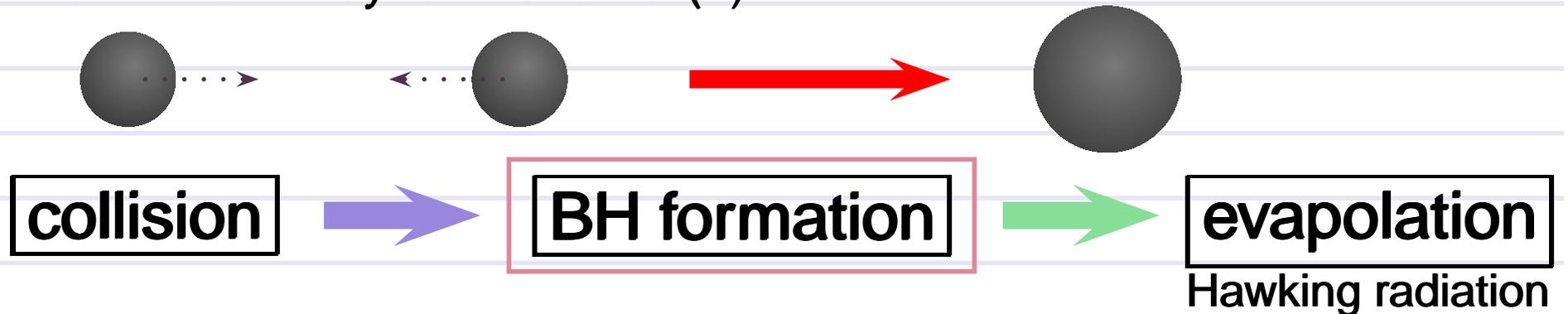
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Does a mini-BH form ?

- 🌀 In principle, we can make a BH by concentrating sufficient energy in small region.
- 🌀 Spacetime : 4 dimension Planck scale : 10^{19} [GeV]
- 🌀 Theory of high-dimensional gravity
If planck scale is 10 [TeV] (consistent with present experiments), a mini BH may form at LHC.(?)



- 🌀 condition of BH formation (impact parameter)
 - 🌀 nature of formed BH (mass, angular momentum)
 - 🌀 feature of GW (dissipation of GW)
- test particle collision
BH collision
(high-dimensional)
Numerical Relativity

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🌀 Sp [GeV]

🌀 The High velocity BH collision in 5 dimensions

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collision

BH formation

evaporation

Hawking radiation

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🌀 feature of GW (dissipation of GW)

test particle collision
BH collision

(high-dimensional)
Numerical Relativity