

Thought Experiment on General Relativity

Ravindra Sidramappa Mundase

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We will discuss the gravitational force between two black holes by using the fundamental concept of general relativity and test whether it is correct or not. This discussion is based on two black holes. We will check the validity of the concept of space-time curvature.



Consider the two black holes A and B are separated by very large distance L in the free space as shown in figure above. Each black hole warps the space-time around its vicinity. Each black hole produces very deep valley in the space-time fabric surrounding itself. The curvature of space-time will always will push the black body from all direction. The space-time will push the black hole to the centre of curvature. Therefore each black hole will always remain at the centre of curvature.

If curvature of space-time is the only root cause of gravity, then how the two black holes will attract each other? We know that geometry of space-time between them do not allow them to exert force on each other. If A is attracted towards B the curved space-time surrounding A on the side B will push the A towards the centre and resist the motion of A. If B is attracted towards the A the curved space-time surrounding B on the side A will push the B towards the centre and resist the motion of B. Hence there will be no motion between A and B.

The concept of space-time curvature does not produce any motion between two black holes A and B. There is no force of gravity arising out of space-time curvature. Therefore by logical deduction we can confirm that the concept of space time curvature is not valid and true.