

Re: More on the controversy about the Schwarzschild radius and black holes.

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- *From:* LEJ Brouwer <[intuitionist1@xxxxxxxxxx](mailto:intuitionist1@xxxxxxxxxx)>
  - *Date:* 15 May 2007 13:17:46 -0700
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On May 14, 9:03 pm, stevendary13...@xxxxxxxxxx (Daryl McCullough) wrote:

LEJ Brouwer says...

On May 5, 5:49 am, stevendary13...@xxxxxxxxxx (Daryl McCullough) wrote:

Imagine sitting on Earth, and surrounded by a spherical shell of distant stars. Now, imagine attaching powerful rockets to each star in the shell so that at the same moment (according to the coordinate system in which the Earth is at rest), the stars are all sent hurtling towards the earth. The rockets are timed so that all the stars will arrive simultaneously.

Now, what you can do is add up the masses of all the stars and compute the Schwarzschild radius for that mass. At some point, the stars will pass that radius. After that, you and the Earth and all those stars are inside a black hole.

There still isn't any point mass anywhere except in the \*future\*. The predictions of General Relativity are that all the mass inside the spherical shell will eventually be concentrated into a single point. That's the singularity, and it exists in the \*future\*, not

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in any particular spatial location.

From the point of view of someone outside the spherical shell of stars, the geometry will approach that of the Schwarzschild exterior solution.

[Stuff deleted]

There therefore appear to be three separate regions in the scenario above: