

Reducing our size for space exploration

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1 Question

Is reducing our size a viable alternative/approach to space exploration?

2 Answer

I don't have enough knowledge of physics to determine all the impacts that scaling ourselves down would have. There are a few things I would consider, such as:

- the impact on being launched in space
 - do we need less energy?
 - are there other means to get us in space if we're smaller?
- our ability to accelerate/decelerate in space
 - what kind of technology can we use?
- our ability to send communication signals back on earth
 - given our small size, how can we produce enough power for the signal to be received?
- are there physical phenomenons that we need to take into account due to our reduced size?

When I asked myself this question, I was reading [Accelerando](#), where a crew is sent far in space in a “can”. I always perceived it as being the size of a soft drink can and I thought that was an interesting idea. In the book they are not shipping human beings, but rather a simulation of their consciousness. In other words, they're sending an AI in a can™. I've also thought of this as explaining why we've never been visited by aliens. Maybe one of the steps in evolution or progress is that we are able to scale ourselves down so that we are not as visible as we currently are. Imagine being an ant colony instead of the human society, our footprint would be a lot less noticeable from outer space. Furthermore, if you were to travel in a can, it would be a lot more difficult to detect you than if you were travelling in an extremely large ship.

The benefit I could see from being able to reduce the size of our satellites or vessels is that less mass is required to be turned into a spacecraft, which could allow us to create many more spacecrafts for the same amount of materials.

This question is also reminiscent of movies like [Honey, I shrunk the Kids](#), [Downsizing](#), [Ant-Man](#) or even a recent [Rick & Morty](#) episode. They explore the differences between full and miniature scales.