

# Schulz 7.1

$$(\underline{n} U^\alpha)_{;\alpha} = q R^2$$

would indicate that particles can locally be created or destroyed based on curvature of spacetime

For a comoving volume of the fluid, the quantity  $(\underline{n} U^\alpha)_{;\alpha}$  would increase continuously as the fluid move from flat spacetime to curved, meaning particles are destroyed. But it doesn't seem like spacetime will give that back as the fluid passes from curved spacetime to flat, because  $R^2$  is always positive. So as the fluid goes across ~~the~~ a region of curved spacetime, some particles are destroyed for good.

It is possible to experimentally test this eq., one would observe a cloud of stars as they move through a much larger star, and observe if the total mass is reduced once the cloud of stars come out the other side.

~~Davidson Chen~~

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