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**Ciro Villa** Yesterday 1:31 PM - Public

"Mathematicians at UC Davis have come up with a new way to crinkle up the fabric of space-time -- at least in theory.

"We show that space-time cannot be locally flat at a point where two shock waves collide," said Blake Temple, professor of mathematics at UC Davis. "This is a new kind of singularity in general relativity."

The results are reported in two papers by Temple with graduate students Moritz Reintjes and Zeke Vogler, respectively, both published in the journal Proceedings of the Royal Society A."

Read more at: <http://phys.org/news/2012-07-wrinkle-space-time-math-shockwaves-crinkle.html#jCp>

[A wrinkle in space-time: Math shows how shockwaves could crinkle space »](#)

Mathematicians at UC Davis have come up with a new way to crinkle up the fabric of space-time -- at least in theory.

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3 comments



jean Olaf Yesterday 1:33 PM " space-time cannot be locally flat"

it means then no local derivatives ?



Rob Zimmerman Yesterday 2:19 PM +jean Olaf I read it to mean that it has to fold in some form (i.e. in the way that theoretically allows FTL travel). That's just the first thought that came to mind, though.



Nic Johns Yesterday 3:05 PM I suspect it depends on what is meant by 'locally'. Take a small enough region under normal gravity and it can be considered flat for the purposes of relativity. Only under extreme gravity changes (approaching singularity) does this local space become curved.

How colliding shockwaves can produce such extreme conditions I have no idea, but that was my take.



Works at **Software Engineer - Early Adopter, Technology Buff, Bilingual, Multicultural, Software Engineer with over 20 years of experience.** Interested in **Astronomy, Cosmology, Space Science, Philosophy, Physics, Other Sciences, Society, Sociology, Current Events, Music and various other disciplines.**

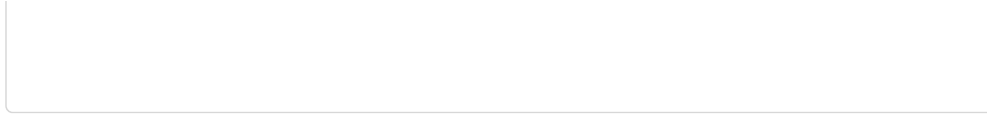
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