

swallow that, swallow anything

The Urth list — 1 messages, 1 voices, 06 Jul 1998

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Damien Broderick — 06 Jul 1998, 13:36

prion, it grieves me to say, is speaking through his hat on the matter of black holes gulping down stars in mere moments. Here's the authoritative J-P Luminet (you think I'm making this name up, don't you?), BLACK HOLES, Cambridge UP 1992:

`Hawking suggested that a mini black hole could be captured by the Sun and fall gradually towards its centre. Contrary to popular belief the Sun would not be consumed by it. A small black hole would in fact be able to exist for a long time without having any noticeable effect on the Sun. The Sun would only be in any danger if the hole grew very quickly. However, the solar matter swallowed by the black hole would emit so much radiation before disappearing that the radiation pressure exerted on the external medium would limit the speed of growth of the black hole. The flow of consumed matter would adjust itself to the flow of liberated energy, so that the region around the black hole would become nothing less than an extremely stable nuclear reactor. The Sun with the "black heart" would continue its peaceful life on the Main Sequence, its functioning modified in a barely perceptible way!' (p. 220) Astronomers once thought this might be the explanation for the `missing solar neutrino' problem (now attributed, as everyone knows, to phase-oscillation between the neutrino generation states I like euphoniously to regard as eutrinos, mutrinos and tautrinos, associated respectively with electrons, muons and tauons).

What if a quantum hole passed through Earth?

`the passage of a black hole through the planet would cause seismic waves... its exit would be accompanied by atmospheric shock waves...' (p. 222)

prion's salvation might reside in the phrase `only be in any danger if the hole grew very quickly'. I think we can assume that the demiurges who fixed the wormhole/black hole in the heart of Wolfe's Sun would have managed to avoid using the wrong sized hole.

Damien Broderick