

Re: The Mars Landing Approach: Getting Large Payloads to the Surface of the Red Planet

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- *From:* Fred J. McCall <fmccall@xxxxxxxxxxxxx>
 - *Date:* Mon, 23 Jul 2007 06:22:55 GMT
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Einar <einarbb@xxxxxxxxx> wrote:

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:Fred J. McCall wrote:
:> Einar <einarbb@xxxxxxxxx> wrote:
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:> :
:> :... but it
:> :´s estimated that an astronaut staying on Mars may loose as much as
:> :25% of his/her braincells, due to cosmic radiation bombardment.
:> :
:>
:> Estimated by whom? Cite?
:>
:
:Posted it some time ago on Astronomy.com:
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:"Quote from Astronomy-Special Issue, October 2006."
:
:"Space-travel woes; By Bob Berman."
:
:"Things really get bad when you leave orbit and pass outside Earth's
:magneto-sphere, the barrier against solar and cosmic radiation. Apollo
:astronauts all saw flashes like meteors cross their visual fields
:about once a minute, as heavy ions ripped through their brains. Their
:radiation exposure was not trivial, and, years later, Alan Shepard didn
:t deny that going to the Moon may have given him the leukemia that
:eventually killed him."
:
:"Things could have been worse. A coronal mass ejection blasted the
:Moon with charged particles just 1 month before the final Apollo 17
:mission. Had the astronauts been on the surface - or in their capsule
:going or coming - they would have died."
:
:"Okay, so we build a shielded "safe room" on the Mars-bound craft.
:Problem is, the Red Planet has no magnetosphere. Gamma rays and X rays
:from distant supernovae rain down on the surface, along with those
:pesky charged particles from the Sun. The continuous ionizing

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:background flux disqualifies that planet as a health spa."

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:"High cancer risk aside, brain neurons will be destroyed continuously
:by the non-stop radiation. Biologists estimate that during a 2-year
:Mars mission, an astronaut may lose between 13 and 40% of her or his
:brain! Ouch! Even smart people can't afford that. It greatly exceeds
:the 5% annual neuron necrosis suffered by some Alzheimer's patients."

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:"Once the Red Planet, astronauts will have to fend for themselves:
:There'll be no ride home for at least 18 months after arrival, when
:Earth and Mars again align. You're on a place without breathable air.
:It's always fr