

Re: Space Travel by Humans is Possible

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- *From:* Fred J. McCall <fmccall@xxxxxxxxxxxxx>
 - *Date:* Sun, 20 Jan 2008 19:27:22 -0700
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Quadibloc <jsavard@xxxxxxxxx> wrote:

:On Jan 20, 8:14 am, Einar <eina...@xxxxxxxxx> wrote:

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:> You can't solve it with reaction mass. It's not the Moon. If Mars
:> would be like the Moon, i.e. airless, that solution would work. But as
:> Mars has got atmosphere, but rather too thin, landing like on the
:> Moon wont work.

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:There are two reasons why using rockets to land on Mars is difficult.

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:One is that Mars is larger, with more gravity, so more fuel is
:required.

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This says it's more difficult than landing on the Moon but not as
difficult as landing on Earth with a 'tail sitter', which was the plan
for DC-X, DC-Y, etc.

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:The other is that, due to Mars' atmosphere, damaging turbulence
:effects will take place if an attempt is made to use *large* rocket
:nozzles to brake the flight of a fast-moving spaceship.

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Again, see DC-X, DC-Y, etc.

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:And because Mars' atmosphere is very thin, using Mars' atmosphere to
:reduce the spaceship's velocity enough to allow for a safe landing is
:also difficult.

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:One way this can be dealt with is: a) to bring the extra fuel
:required, and b) to use many small rocket nozzles instead of a few
:large ones.

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:So we do know a *way* to land on Mars. Viking, for example, landed
:under rocket power, instead of using the bouncing-airbags technique of
:Sojourner that would be unsuitable for landing humans. (Incidentally,

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:the Viking lander weighed significantly more than a human being, so
:using rocket fuel to land a Mercury-sized capsule with an astronaut on
:Mars, while supplies and a habitat had previously been landed by the
:bouncing Sojourner method seems entirely feasible.)
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Oh, now you're going to hear about it! How dare you point out that a
little thought will solve these 'impossible' problems!

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"The reasonable man adapts himself to the world; the unreasonable
man persists in trying to adapt the world to himself. Therefore,
all progress depends on the unreasonable man."

—George Bernard Shaw

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