

New Study Claims Mars Dry for 4 Billion Years

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- *From:* msadkins04@xxxxxxxxxx
 - *Date:* 21 Jul 2005 13:14:33 -0700
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Today on the Web there was an item at space.com by Senior Science Writer Robert Roy Britt, announcing the results of a study due to appear in the July 22 issue of the journal Science, in which Caltech graduate student David Shuster and Asst. Prof. Benjamin Weiss suggest that Mars hasn't had "large areas of freestanding water for four billion years", but don't rule out "pockets of isolated water in geothermal springs for periods of time".

The study is based upon argon decay analysis of the remaining argon content of seven meteorites "known to have arrived from Mars after millions of years in space". The study relies on a formula for argon decay that varies with temperature. "Any way we look at it, these rocks have been very cold for a very long time," says Shuster.

As of this posting, the 7/22/05 issue of Science is not yet available at its online site www.sciencemag.org.

Offhand, there seem to be a number of assumptions to be justified. Whether the study does so successfully remains to be seen, though the fact that these represent elementary issues suggests that they wouldn't be overlooked.

First, how is it known that the rocks weren't in space for merely "millions of years" but perhaps for billions of years? If they were thrust into space as the result of a cataclysmic event four billion years ago, and have been floating in space during the intervening time, wouldn't the study be invalidated by the fact that space is cold?

Second, what were the climate patterns on Mars up until the time these rocks became spaceborn? Could they have originated in a part of Mars that was "very cold" without implicating the same climate for all the rest of the planet?

Third, what were the original argon levels in these rocks, and how is this known? If volcanic, other geological, atmospheric, or even biological processes resulted in a different argon ratio than expected, could this alter the validity of the study?

Other questions come to mind, but these are the primary ones that

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occured to me while reading the media coverage of the study.

Mark Adkins
msadkins04@xxxxxxxxxx

- *Follow-Ups:*

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- ◆ *Re: New Study Claims Mars Dry for 4 Billion Years*
◇ *From:* panteltje
- ◆ *Re: New Study Claims Mars Dry for 4 Billion Years*
◇ *From:* Jan Panteltje
- ◆ *Re: New Study Claims Mars Dry for 4 Billion Years*
◇ *From:* N:dlzc D:aol T:com \((dlzc\)

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