

Re: Tap the supervolcanoes to prevent a worldwide catastrophe

Source: <http://sci.tech-archive.net/Archive/sci.physics/2005-01/5193.html>

From: G. R. L. Cowan (gcowan_at_eagle.ca)

Date: 01/13/05

Date: Thu, 13 Jan 2005 11:12:35 -0500

Ed Earl Ross wrote:

>

> *G. R. L. Cowan wrote:*

> > *Ed Earl Ross wrote:*

> >

> > > *habshi wrote:*

> > >

> > > > *Geothermal is probably renewable as it is based on radiocative*

> > > > *decay in the earth*

> > >

> > > *The source of geothermal heat is hotly debated.*

> >

> >

> > *By you, maybe.*

>

> *See:*

> http://www.geology.sdsu.edu/how_volcanoes_work/Heat.html ...

> *...The debate is about how much heat various sources provide. Some say*

> *any fission reaction within the core would have long past used all*

> *its fissionable material.*

Oh, OK. You have been the victim of a strawman.

There was some talk a few years ago about uranium fissioning, yielding 200 MeV of energy per atom, at the Earth's core.

I saw no evidence this talk was not totally stupid.

But arguments you may have read to the effect that it

was totally stupid, while probably correct, do not imply

— and the strawman argument would be the pretense that they do — that thermal power within the Earth cannot come from uranium.

If not fissioned, it produces heat by another mechanism —

alpha decay — and while this yields only IIRC 43 MeV per atom, it happens on the same timescale as the age of the Earth

sci.physics: Re: Tap the supervolcanoes to prevent a worldwide catastrophe

and cannot be hurried. So while, as your SDSU link says, radioactive decay power within the Earth isn't the ~100 TW it must once have been, it will still be in the tens of terawatts for billions of years to come -- including ~0 TW of fission.

Also see <http://www.aip.org/png/html/neutrino.htm> .

-- Graham Cowan

http://www.eagle.ca/~gcowan/Paper_for_11th_CHC.html --

How individual mobility gains nuclear cachet