David H. Grinspoon

Dr. Grinspoon is a "planetologist", on the faculty of the University of Colorado at Boulder. He has authored at least three books:

- Venus Revealed: A New Look Below the Clouds of Our Mysterious Twin Planet. This excellent book is reviewed below.

- Lonely Planets: The Natural Philosophy of Alien Life
- The Planet Venus (with Mikhail Ya. Marov)

Dr. Grinspoon's research concerns the planet Venus. As an example: The ratio of deuterium to simple hydrogen is about 120 times greater in the Venusian atmosphere than it is on Earth. This is often taken to have resultedfrom loss into outer space of primordial Venusian oceans. However, Dr.Grinspoon has argued that the source of both isotopes may be outgassing from the Venusian mantle.

Dr. Grinspoon is married to the documentary photographer, Tory Read. His personal web site is at: Funky Science.

ΨΨΨ

VENUS REVEALED: A NEW LOOK BELOW THE CLOUDS OF OUR MYSTERIOUS TWIN PLANET

By David Harry Grinspoon, 1997

This is an excellent book! Results from two (American and Soviet) brilliant programs of space exploration are explained by an author who is intellectually competent, lucid and imaginative.

The subject is the planet Venus, which turns out to be a hellish world. The terrain is ferociously volcanic and so hot (840 °F) that is glows a dull red at night. The small amount of sunlight that reaches the ground is also red. Rivers of congealed lava are longer than any river on Earth. The lower atmosphere is as hot as the ground, heavily sulfurous and devoid of breathable oxygen. The atmospheric pressure at ground level is 90 times what it is on Earth.

Venus is covered by clouds of sulfuric acid droplets that until recently have barred any observation of the ground and lower atmosphere. These clouds have a complex, tri-layered structure. Dr. Grinspoon (the author) points out that they are in some ways like the Earth's oceans, although they contain far less material. At a height of 30-45 miles from the ground, they are cool enough to support life; however, they contain little or no water.

Above the clouds, the winds blow westward at a constant 220 mile per hour.

There are two interesting orbital synchronies between Earth and Venus. The first is that Venus passes the Earth exactly five times every eight Earth years, so that the closest approach between the two planets always occurs within one of five small regions of space, relative to the sun. The second is that Venus rotates on its axis almost exactly five times between closest approaches, so that the same part of Venus faces the Earth between successive closest approaches. It is as though Earth reached out and altered the rotation of our sister planet, with no reciprocal effect on Earth. Since the two planets are nearly the same size, such a non-reciprocal effect is very unlikely, and this strange orbital synchrony remains unexplained.

The book also describes human phenomena, including the heartbreaking mission approval process and the legendary ability of Mission Control to rescue probes from disaster. Grinspoon makes a point of giving other cultures their due when it comes to knowledge about Venus, and describes the observational triumphs of the ancient Mayan and Sumerian civilizations. In the aftermath of the Soviet Union's collapse and Russia's subsequent woes, it is easy to forget how impressive Soviet engineering could sometimes be, and Grinspoon describes this.

The book also makes suggestions about future exploration of Venus. This includes the possibility of balloon observatories that float among the Venusian clouds.

The photos of Venus and the other illustrations are terrific.