

# Beige Cosmos Produces Red Faces

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Few gave a thought to the color of the universe until two months ago, when astronomers at Johns Hopkins University ran calculations through a spectrum of color schemes and concluded that on average the universe is pale turquoise, or just a shade greener.

It is a pleasingly serene color, which made the front pages of newspapers and the TV news. But reality, it turns out, is not so vivid. The universe is really beige. Get used to it.

"We got it wrong," the astronomers, Dr. Karl Glazebrook and Dr. Ivan Baldry, announced yesterday. They said they had been led astray by a flaw in their computer software.

Determining the cosmic color was an afterthought to an examination of some 200,000 galaxies to learn the rate of star birth as the universe aged. The astronomers then decided to transform the data into an array of colors. They gave a numeric value to the colors of the different galaxies, added them together and came up with the color the universe would appear to be to someone "standing" outside.

But soon after the turquoise report stole the show at a meeting of the American Astronomical Society, scientists and color specialists tried to reproduce the findings. Dr. Mark Fairchild, a scientist at the Munsell Color Science Laboratory at the Rochester Institute of Technology, pointed out the source of the astronomers' mistake.

"We had a bug in our code," Dr. Glazebrook said in an interview. "The effect of the bug was to shift the color of everything toward the green. That's really embarrassing for us."

The more the astronomers learned about color, the less surprised they were that they had made mistakes.

As Dr. Glazebrook and Dr. Baldry explained, the average color of the universe is very close to white. That is why a small error had such a large effect. A slight tilt in one direction and the universe might have showed up yellowish; in another direction, bluish white.

The two astronomers, perhaps in denial, quibbled over whether the color was really beige or something even lighter. In any case, they said they were open to suggestions for a name for the color. Their Web site is [www.pha.jhu.edu/kgb/cosspec](http://www.pha.jhu.edu/kgb/cosspec).