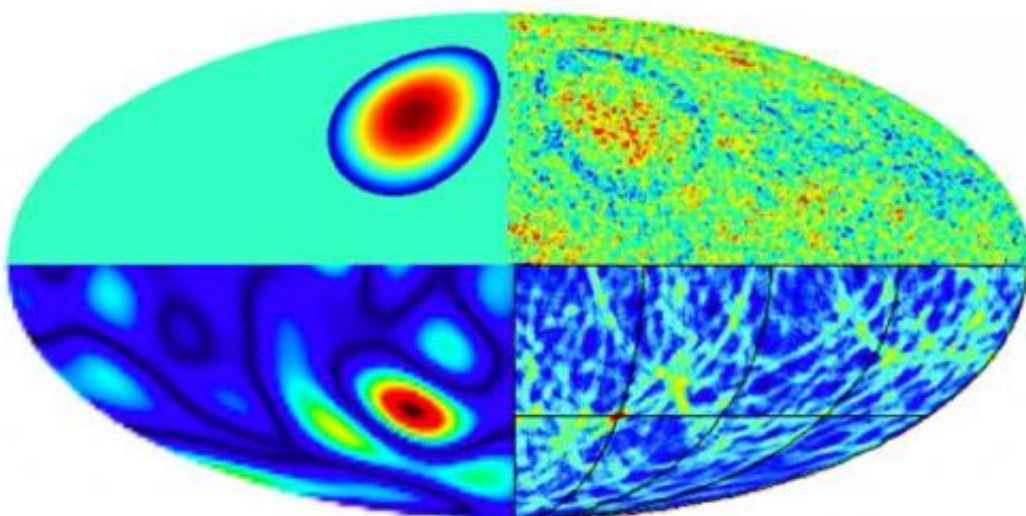


# Abuse from other universes -- a second opinion

October 10 2011, By Jon Voisey

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Concentric circles interpreted as bruises from collisions with alternate universes.  
Credit: Feeney et al.

At the end of last year, there was a flurry of activity from astronomers Gurzadyan and Penrose that [considered the evidence](#) of alternate universes or the existence of a universe prior to the Big Bang and suggested that such evidence may be imprinted on the cosmic microwave background as bruises of concentric circles. Quickly, this was followed [by an announcement](#) claiming to find just such circles. Of course, with an announcement this big, the statistical significance would need to be confirmed. A recent paper in the October issue of the *Astrophysical*

*Journal* provides a second opinion.

[The review](#) was conducted by Amir Hajian at the Canadian Institute for Theoretical Astrophysics. To conduct the study, Hajian selected a large number of circles, similar to the ones reported in the previous studies and asked what the [probability](#) was that, randomly, the “edge” of the circles would contain hot-spots, similar to the ones predicted. These were then compared to the bruises reported by the other teams by examining their “variance” which is how much the points on the perimeter were spread around the average temperature.

Hajian notes that, with the resolution considered it would be possible to consider some 5 million circles. The results of his comparison demonstrated that it would be expected that some 0.3% of those should have features similar to the ones reported previously. With so many possibilities, this would imply that some 15,000 potential circles could be flagged as candidates for these cosmic bruises. Even the “best” candidate proposed in the Gurzadyan and Penrose study should still exist statistically.

As such, Hajian concludes that the features Gurzadyan and Penrose reported were not statistically anomalous. Hajian does not comment directly on Feeney et al.’s detection, but given theirs were constructed in a similar manner, it should be expected that they are similarly statistically insignificant. It would appear that if the fingerprints of other universes are embedded in the sky, they have been lost in the noise.

Source: [Universe Today](#)

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