Science & Technology

Scientists Go Bananas Over Baby Galaxies

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Astronomers recently got their first close-up look at the early universe and saw something they were not expecting: fledgling galaxies formed not in the spiral shape that they would eventually grow into, like our own Milky Way, but rather curved, elongated disks that vaguely resemble giant bananas.

An international group of astronomers led by Columbia's Viraj Pandya made the discovery by analyzing images from NASA's James Webb Space Telescope, looking specifically for galaxies born when the universe was between six hundred million and six billion years old. Their findings, which appear in a forthcoming paper

whimsically titled “Galaxies Going Bananas,” could dramatically improve our understanding of how galaxies evolve, as well as shed light on the nature of dark matter, a mysterious substance thought to help stabilize large cosmic bodies. The shapes of the young galaxies that Pandya and his colleagues observed could be evidence of their having gestated inside of tube-like clusters of dark matter, which are hypothesized to have been commonplace soon after the Big Bang.

The Columbia-led discovery should also help astronomers spot nascent galaxies in the sky, since they now know what shapes to look for. “Identifying additional categories for early galaxies is exciting,” says Columbia astronomer Kartheik Iyer, a coauthor of the paper. “There’s a lot more to analyze now.”

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