News — Space

Andromeda Galaxy Broader, Study Finds

Larry O'Hanlon, Discovery News

Jan. 10, 2007 — The Milky Way’s sister galaxy Andromeda has been hiding a gigantic secret: its true size.

A new survey of stars in the sky around Andromeda confirms that a giant halo of bright, old, depleted red stars makes Andromeda the second largest thing in Earth’s night skies — the first being the Milky Way, itself.

From a dark location Andromeda is visible to the naked eye as a little blur in the northern sky. You can blot it out with the tip of your pinky finger held at arm’s length. But if the new study is correct, it would take
an umbrella to block out the portion of sky actually covered by Andromeda.

"It's like 50 full moon diameters across, at least," said astronomer Puragra Guhathakurta of the University of California at Santa Cruz (UCSC). Guhathakurta presented the discovery this week at the meeting of the American Astronomical Society in Seattle. That makes the Andromeda about the size of the Big Dipper constellation in the night sky, if it were all visible.

Using telescopes at the Kitt Peak National Observatory in Arizona and the W.M. Keck Observatory in Hawaii, Guhathakurta and his team surveyed stars in a wide swath of sky around Andromeda to figure out which were the requisite 2.5 million light years away to be Andromedan and which were far closer members of the Milky Way.

"We are trying to tell the beacons from the fireflies," said Guhathakurta, by way of analogy. The fireflies are the stars that are closer but look similarly bright to those in Andromeda. The beacons are the luminous, old, red stars that are part of the other galaxy.

"They look equally bright to us, but they are different beasts," Guhathakurta said.

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