

# Undergraduate student spots a low surface brightness object in the Leo I galaxy group

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Astronomy student Chris Carr Credit: Case Western Reserve University

Last summer, Case Western Reserve University undergraduate student Chris Carr spotted what looked like a "smudge" on deep sky images taken from the university's Burrell Schmidt telescope at Kitt Peak National Observatory in southwest Arizona.

It was so faint he hardly saw it. But he flagged it for Astronomy Professor Chris Mihos, with whom he'd been working the past two

weeks, and explored the coordinates further.

What they found pointed to the detection of a new galaxy about 37 million lightyears away.

"I wasn't quite sure how to feel," Carr, now a rising senior studying physics and astronomy, said of the discovery. "It's not really something you are prepared for, especially this early.

"As Professor Mihos, our collaborators and I learned more about this bizarre smudge in our images, the significance of the discovery really began to come into focus, and that's when it sunk in that this was something truly special."

Announcing the finding on Twitter, Mihos thanked Carr for his "smudge-spotting eyes."

Carr's [discovery](#) is part of the Leo I galaxy group, and while its origins remain unclear, the researchers stated it is the "lowest surface brightness object ever detected via integrated light."

Their research paper, titled "BST1047+1156: An Extremely Diffuse and Gas-rich Object in the Leo I Group," was recently published in *The Astrophysical Journal Letters*, with Carr as the second author.

**More information:** J. Christopher Mihos et al, BST1047+1156: An Extremely Diffuse and Gas-rich Object in the Leo I Group, *The Astrophysical Journal* (2018). [DOI: 10.3847/2041-8213/aad62e](https://doi.org/10.3847/2041-8213/aad62e)

Provided by Case Western Reserve University

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