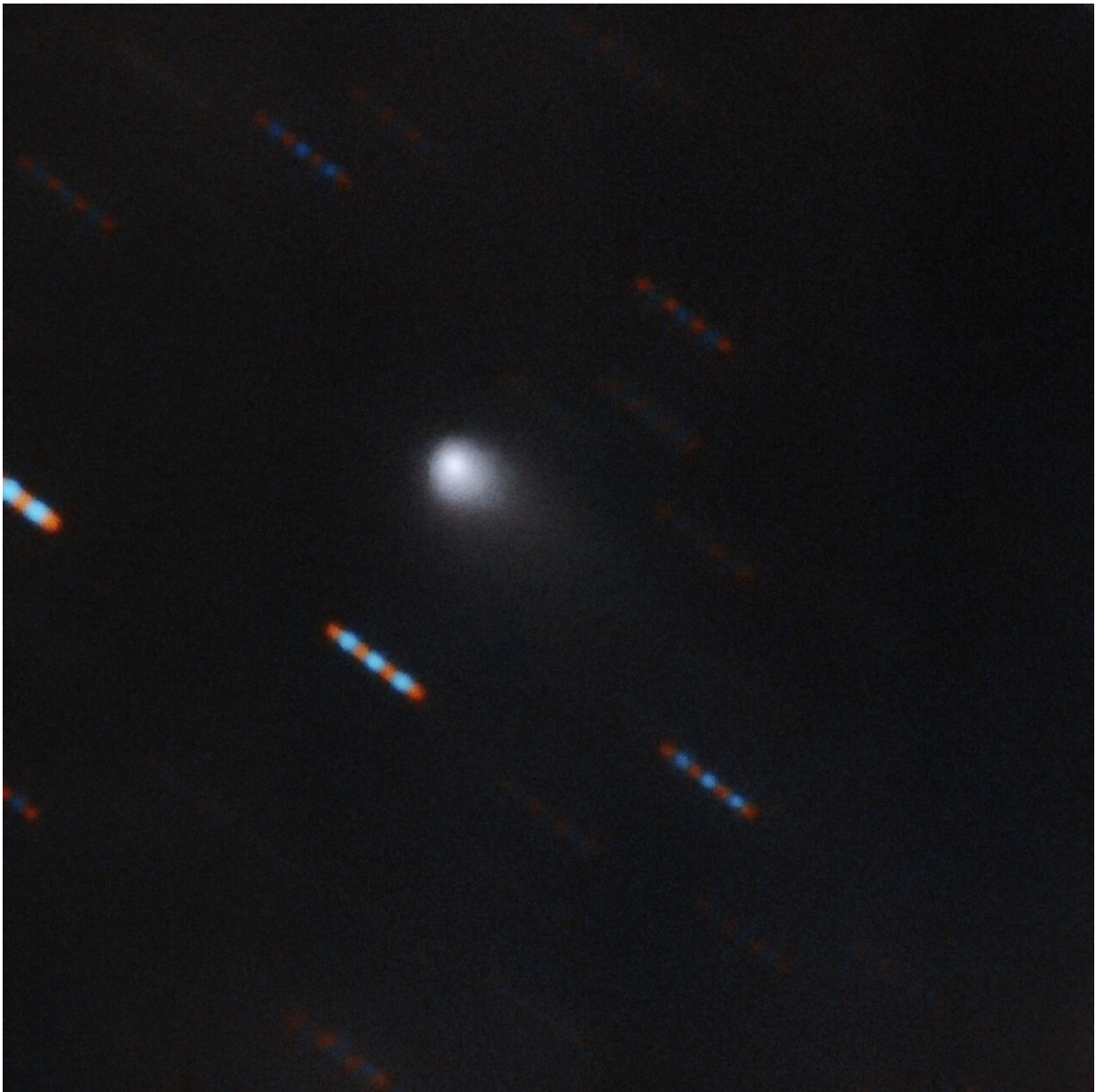


Gemini observatory captures multicolor image of first-ever interstellar comet

September 13 2019



Gemini Observatory two-color composite image of C/2019 Q4 (Borisov) which is the first interstellar comet ever identified. This image was obtained using the Gemini North Multi-Object Spectrograph (GMOS) from Hawaii's Maunakea. The image was obtained with four 60-second exposures in bands (filters) r and g. Blue and red dashes are images of background stars which appear to streak due to the motion of the comet. Composite image by Travis Rector. Credit: Gemini Observatory/NSF/AURA

The first-ever comet from beyond our Solar System has been successfully imaged by the Gemini Observatory in multiple colors. The image of the newly discovered object, denoted C/2019 Q4 (Borisov), was obtained on the night of 9-10 September using the Gemini Multi-Object Spectrograph on the Gemini North Telescope on Hawaii's Maunakea.

"This image was possible because of Gemini's ability to rapidly adjust observations and observe objects like this, which have very short windows of visibility," said Andrew Stephens of Gemini Observatory who coordinated the observations. "However, we really had to scramble for this one since we got the final details at 3:00 am and were observing it by 4:45!"

The image shows a very pronounced tail, indicative of outgassing, which is what defines a cometary object. This is the first time an interstellar visitor to our Solar System has clearly shown a tail due to outgassing. The only other interstellar visitor studied in our Solar System was 'Oumuamua which was a very elongated asteroid-like [object](#) with no obvious outgassing.

The Gemini observations used for this image were obtained in two color bands (filters) and combined to produce a [color image](#). The observations were obtained as part of a target of opportunity program led by Piotr

Guzik and Michal Drahus at the Jagiellonian University in Krakow (Poland). The research team has submitted a paper for publication.

C/2019 Q4 is currently close to the apparent position of the Sun in our sky and is consequently difficult to observe due to the glow of twilight. The comet's hyperbolic path, which is evidence of its origin beyond our Solar System, will bring it to more favorable observing conditions over the next few months.

C/2019 Q4 was discovered by Russian amateur astronomer Gennady Borisov on 30 August, 2019.

Provided by Gemini Observatory

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