

The Nature of Asteroids (101955) Bennu and (162173) Ryugu from the Analysis of Samples Delivered to Earth by OSIRIS-REx and Hayabusa2

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The OSIRIS-REx mission delivered a sample of asteroid Bennu to Earth on September 24, 2023. Since the first visual inspection of this regolith sample, the OSIRIS-REx Sample Analysis Team has been hard at work determining its nature [1]. Our talk will focus on key petrologic and geochemical results from Bennu sample analysis. We will discuss the implications of these data for geologic activity within Bennu's parent body. We will also compare them with those from the analysis of asteroid Ryugu sample returned by Hayabusa2, with a goal of providing more comprehensive constraints on geologic activity in the earliest time of the Solar System's formation. A complementary talk [2] on the organic chemistry of the Bennu sample will also be presented at this meeting. Through these two companion talks, along with others presented at the symposium, we hope to stimulate discussion on the relationship between the two carbonaceous asteroids.

Supported by NASA under Contract NNM10AA11C issued through the New Frontiers Program.

References

[1] Lauretta, D.S. & Connolly, H.C. Jr. et al. 2024. *Meteoritics & Planetary Science* doi:10.1111/maps.14227. [2] Glavin D. et al., this meeting.