A Compilation, Analysis, and Distribution of HST Orion Nebula Data.

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Abstract

As the closest HII region and center of star formation that includes massive stars, the Orion Nebula and its associated young cluster have been the subject of numerous imaging studies with the HST. Each study targeted a region driven by its goals. This piecemeal approach has resulted in a vast body of material. The primary goal of this archive study is to compile all of the HST imaging data and combine the images whenever possible, using the total field of the Orion Heritage program (GO 10246) for reference, thus producing high S/N images in many areas. The combined images will be searched for high proper motion objects, new proplyds, jets, shocks, and other outflows from young-stellar-objects and a comprehensive inventory will be created, with the patterns of appearance identified and the most interesting objects subjected to detailed interpretation. These data will become the core of a website for distribution of HST and related Orion information. Very specific questions to be addressed include "How far does the high velocity wind from theta one Ori C extend?", "What is the explanation of the distribution of proplyds?", and "Can we use the Orion Nebula and its cluster to test the idea of propagated star formation?".

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