From Dark Clouds to Bright Clusters

Star Formation in the Milky Way

Star formation happens all over the Milky Way Galaxy with most stars forming in dense groups called clusters.

Traditional astronomical observations at optical wavelengths do not penetrate the dust layers surrounding the birth places of stars and planets.

Near- and mid-infrared observations allow us to study star clusters which are embedded in their parent molecular clouds.

Telescopes and Instrumentation

To study the embedded cluster population and their surroundings we use state-of-the-art technology like the Very Large Telescope in the Atacama desert in Chile.

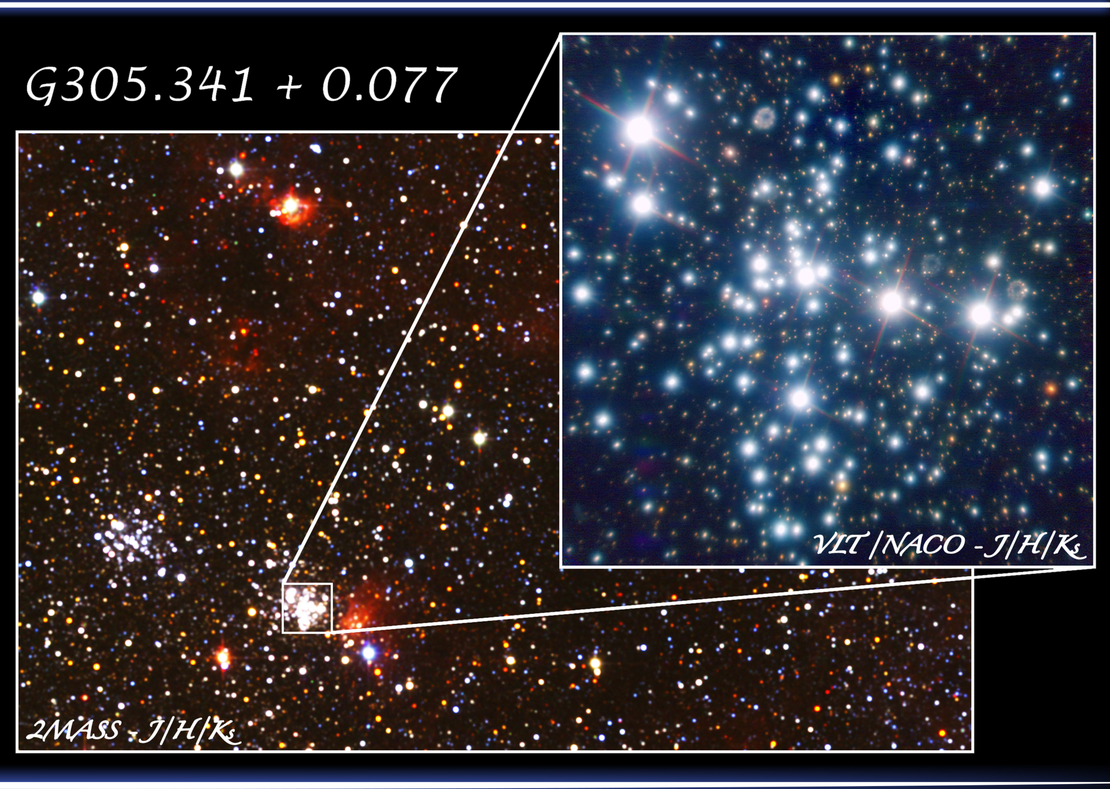
Special observing techniques help to mitigate negative effects of atmospheric turbulence and allow us to resolve almost the entire cluster population.

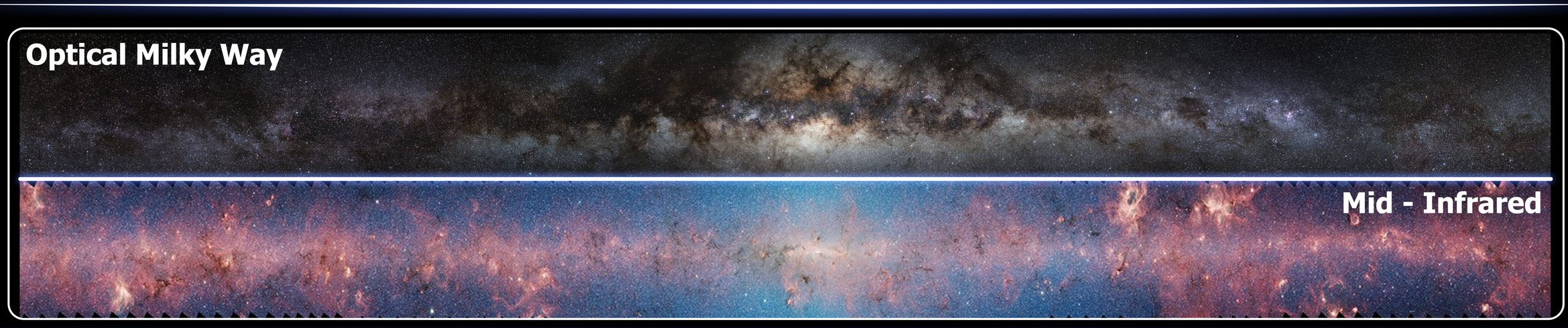
The Formation of Clusters

There are still many open questions concerning stellar clusters.

- Which effects do massive stars have on their environment?
- What is the role of the parent molecular cloud in the formation process?
- Are stellar masses pre-determined?

We have built the largest homogeneous adaptive optics survey of star clusters, called FORCE for FORmation of ClustErs. It will be our foundation to answer these questions and define the fundamental picture of cluster formation in the Milky Way.





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