

# Sarri Ayoub

## Photometric Analysis of Open Cluster Platais 2 (HIP 5671)

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### Project Summary

Our project focuses on the **photometric analysis of the open cluster Platais 2 (HIP 5671)**. Open clusters provide key insights into **stellar evolution**, as their stars form from the same molecular cloud and share similar characteristics. Platais 2 was chosen due to its **limited coverage in scientific literature**, with only **33 known studies**.

Observations were conducted at **McDonald Observatory (LCOGT)** using a **0.35-meter telescope** and a **QHY600 CMOS camera** with **B and V filters**. The collected data enabled us to generate a **Hertzsprung-Russell (HR) diagram**, crucial for analyzing **stellar properties, temperatures, and spectral classifications**.

Our findings suggest that **Platais 2 is a moderately young cluster**, estimated to be **100-300 million years old**. The cluster is **dominated by K-type (36.36%) and F-type (22.72%) stars**, with a smaller presence of **O, B, A, G, and M types**, indicating an ongoing **stellar evolution process**.

By studying **Platais 2**, we aim to contribute to a better understanding of **stellar dynamics, age determination, and the role of photometry in astrophysical studies**. Future work will include **isochrone fitting, metallicity analysis, and deeper photometric surveys** to uncover fainter members of the cluster.

# Figures

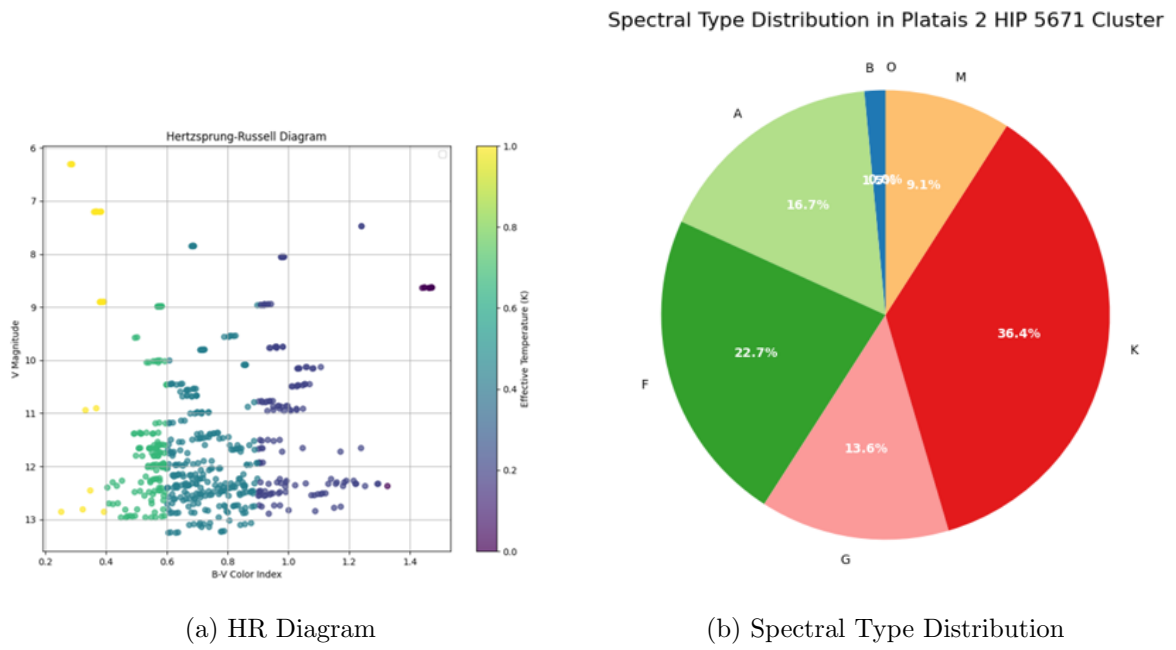


Figure 1: HR Diagram and Spectral Type Distribution Chart for Platais 2.

## Personal Information for the Booklet

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## Quote

*“Physics is love—an invisible force binding us, like gravity to the stars.”*

Best regards,  
Ayoub Sarri