Title of your proposal

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1. Abstract

MAX length of the proposal 4 PAGES - including references

Concise abstract of your proposal to be given here. Brief summary of your science case and your total exposure time, filters to be used.

The main goal of studying galactic evolution is to understand how galaxies produce their stars over time. The easiest way to study this is to measure star formation rates and stellar masses as a function of redshift for a sample of the galaxies. From photometric measurements of galaxies, the physical properties of resolved and unresolved galaxies can be inferred from fitting the measurement to physical models for spectral energy distributions. The morphology of galaxies can also be quantified by looking at their isophotes and radial profiles. Combining these approaches to study galaxies of different ages allows for galactic evolution to be studied. This project aims to classify galaxies, investigate their structure, and measure their physical properties in order to compare galaxies of the same classification at different ages. This will be achieved through spectral energy distribution fitting and constructing the radial profiles of the galaxies from photometric data collected using a 1.2-meter telescope

2. Description of the proposed programme

A) Scientific Rationale:

State the scientific background of the project, pertinent references; justification for the present proposal.

The purpose of this project is to study the different properties and structures of galaxies at various ages, or redshift. This will be achieved by studying resolvable galaxies and unresolved galaxies which are candidates to be the same morphological type. The main goal of studying galactic evolution is to understand how galaxies produce their stars over time. The easiest way to study this is to measure star formation rates and stellar masses as a function of redshift for a sample of the galaxies (Leja et al. 2017). To study the properties of the galaxies spectral energy distribution fitting will be utilised. The morphology of the galaxies will be studied by constructing isophotes and radial profiles from the photometric data collected.

Figure 1:

B) Immediate Objective:

State what specifically is to be observed and what can be learnt from the observations, such that the feasibility becomes clear.

3. Justification of requested observing time, feasibility and visibility

Provide a careful justification of the requested observing time, a feasibility study (expected signal-to-noise estimate for the time requested...) and give information on the target visibility. If asking for more than one target, indicate the priority. Please do provide a list of back-up targets with coordinates, observing windows, time of transits (in the case of exoplanets) and exposures to use for each target. **You are allowed to have a table with backup targets in a 5th page**.

4. Previous/complementary data

Add here information about other data available to you that is relevant to the project and that it will be used in the final report. Mention what is the format of this data (are they magnitudes taken from a paper/database? are they images you need to analyse from the beginning? Include here how this data enhance your observations and how you will use it.

Archival images will also be used from the SDSS to provide data in the u, r, i, and z bands. These images can be retrieved using the astroquery.sdss module from the SDSS database. These images are already

reduced and contain information on the magnitudes of the objects as well as the WCS data in their FITS file, so they do not need to be processed.

5. References

Name1 A., Name2 B., 2015, ApJ, 599, 111: Title of article1

Leja, Joel et al. 2017, Astrophysical Journal 837.2, p. 170: "Deriving physical properties from broadband photometry with Prospector: descrip- tion of the model and a demonstration of its accuracy using 129 galaxies in the local Universe". In: The