A comprehensive study of the color distributions of dwarf early-type galaxies

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Propositions

accompanying the dissertation

A comprehensive study of the color distributions of dwarf early-type galaxies

1. The color-magnitude diagram of galaxies in a cluster is a useful visualization tool for studying the status of the whole cluster, i.e., how dynamically active or virialized and passive the cluster is (Chapter 2).

2. The galaxies on the red side of the red sequence in nearby galaxy clusters are all compact early-types (Chapter 2).

3. From the color-magnitude diagram important details about the galaxy cluster assembly can be derived, in the way that clusters with a smaller scatter are more relaxed (Chapter 2 & 3).

4. The large fraction of dwarf early-type galaxies with young stellar populations in their center reported in this thesis, indicates that the processes responsible for accreting and removing gas to these dwarfs, and forming stars with it, can not be fully explained with current existing scenarios (Chapter 3).

5. Observations in optical bands are a good predictor for the presence of CO in dwarf early-type galaxies (Chapter 4).

6. Astronomers may find life on other planets in the future, however saving the life on this planet is a much higher priority now.

7. As long as there remains sexual inequality, human beings cannot claim that they are civilized enough.

8. A PhD project should be scientifically worthy and well organized, not a random walk approach to possible questions that can be answered.

9. The fate of millions of people in this world is not decided by the intellect of some bright minds, but by the stupidity of some politicians.

Elaheh Hamraz, March 2020