Lit review

Studying the evolution of spiral galaxies, morphology and SED. Look at 2 differt ones in time (Find spirals of different ages) (Difficult for high redshifts, could compare a resolvable and a spiral candidiate thats not resolved) (Pick this one) Why is it interesting?

Describe the scientific topic (Galaxies->Type of galaxy /Morphology-> SEDs)

Galaxy z distance

Comparison of SED between two types of galaxies.

Build it backwards from Question

And little bit of methods

Measurables

Background to the science we are doing.

Can get demographics of stars in galaxies from.

<https://ned.ipac.caltech.edu/level5/March02/Kormendy/Kormendy2_2.html>

GALAXY EVOLUTION FROM MORPHOLOGIES AND SEDS

<https://iopscience.iop.org/article/10.1086/420885/pdf>

SEDS:

<https://academic.oup.com/mnras/article/410/3/2043/964380>

(Why SED fitting)

<https://ned.ipac.caltech.edu/level5/March10/Walcher/Walcher_contents.html> (SED General Stuff)

(“SED fitting can be used effectively to derive a range of physical properties of galaxies, such as redshift, stellar masses, star formation rates, dust masses, and metallicities, with care taken not to over-interpret the available data.”)

<https://iopscience.iop.org/article/10.3847/1538-4357/abbfa7/meta>  
(Similarly, using nonparametric SFHs in SED fitting results in increased accuracy in recovered galaxy star formation rates and stellar ages.)

<https://academic.oup.com/mnras/article/498/4/5581/5904095>

(SED reconstruction of the cosmic star formation history and metallicity evolution by galaxy type)

<http://astro.vaporia.com/start/galaxysed.html>

<https://arxiv.org/pdf/1301.7095.pdf>

<https://arxiv.org/pdf/astro-ph/9906097.pdf>

Galaxy and mass assembly (GAMA): the inferred mass–metallicity relation from z = 0 to 3.5 via forensic SED fitting

Photometry:

<http://astro.vaporia.com/start/photometry.html> ()

<https://iopscience.iop.org/article/10.1086/375528/meta> (“present bivariate distributions of pairs of seven galaxy properties: four optical colors, surface brightness, radial profile shape as measured by the Sersic index, and absolute magnitude.”)

<https://www.aanda.org/articles/aa/abs/2004/48/aa0894/aa0894.html> (Star Formation minor mergers)

<https://iopscience.iop.org/article/10.3847/1538-4357/aa5ffe/meta> (Prospector-α model accuracy for galaxy parameters in local universe)

<https://iopscience.iop.org/article/10.3847/1538-4365/abef67/meta> (Stellar Population Inference with Prospector)

Radial Profile (Morphology) Sersic

<https://ned.ipac.caltech.edu/level5/March12/Gadotti/Gadotti4.html>

Measure morphology, bulged compare to model

<http://spiff.rit.edu/classes/phys443/lectures/gal_1/petro/petro.html>

<https://iopscience.iop.org/article/10.1086/444554/meta> (examine the radial profiles of galaxies in clusters as a function of cluster richness)

Morphology

<https://iopscience.iop.org/article/10.1086/529432/pdf>

<https://ned.ipac.caltech.edu/level5/Sept11/Buta/frames.html>

Inclination- and dust-corrected galaxy parameters: Bulge-to-disc ratios and size-luminosity relations

<https://arxiv.org/pdf/0805.3565.pdf>

Bulges & pseudobulges

<https://astrobites.org/2011/04/04/all-about-bulges-and-consequences-for-galaxy-evolution/>

Bars

<https://arxiv.org/pdf/0805.4206.pdf>

Isophotes(Measure morphology of galaxy)

<https://academic.oup.com/mnras/article/370/3/1339/1156586>

Set of scientific questions I want to study.

Relevant papers on data needed and methods to answer those questions.

Anything smaller than 5 arcmin is hard to resolve.

Merging galaxies are small.

Combine (isophote, SED and radial profile) can use to classify galaxies for images with multiple galaxies.

Field with multiple observable galaxies.

Look in abstract and discussion for why theyre doing what they do?

Why am I doing theses measurements

Mass–Metallicity Relation and Fundamental Metallicity Relation of Metal-poor Star-forming Galaxies at 0.6 < Z < 0.9 from the eBOSS Survey

AN OPTICAL STUDY OF A SAMPLE OF SPIRAL GALAXIES

GEMS: GALAXY EVOLUTION FROM MORPHOLOGIES AND SEDS