Dr. Steven Gillman
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Overview

I am a Postdoctoral Researcher at the Cosmic Dawn Center, National Space Institute (DTU-Space), Denmark. My research focuses on studying galaxy evolution through the analysis of state of the art observations of high-redshift galaxies.

Employment

2020 – **Postdoctoral Researcher |** Technical University of Denmark (DTU), Lyngby, Denmark

Current research interests include: High-redshift, star-forming galaxies, morphology, kinematics, metallicity, integral field spectroscopy, galaxy evolution and formation. I am part of the Cosmic Dawn Center at DTU and I am a member of the MIRI GTO team working on the *JWST* MIRI HUDF Imaging Survey.

Education

2016 – 2020 **PhD in Astronomy**
Dept. of Physics, Durham University
Thesis: Resolved Studies of the Dynamics, Star Formation and Chemical Properties of High-Redshift Galaxies
Supervisor: Prof. Ray Sharples and Prof. Mark Swinbank

2012 – 2016 **MPhys (Hons) Physics and Astronomy**, First Class
Dept. of Physics, University of Birmingham
Masters Thesis: Morphology Density Relation in Low Redshift Galaxy Clusters
Supervisor: Dr. Graham Smith and Dr. Felicia Ziparo

2015 **Research Internship**
Dept. of Physics, University of Birmingham
Project: Galaxy Cluster Scaling Relations
Supervisor: Dr. Graham Smith and Dr. Sarah Mulroy

Publications [ADS]

2021 **Multi-resolution angular momentum measurements of z∼1.5−2 star-forming galaxies**
MNRAS Submitted
J. M. E. Salcedo, Karl Glazebrook, Deanne B. Fisher, Sarah M. Sweet, Danail Obreschkow, Alfred L. Tiley, A. M. Swinbank and **Steven Gillman**

The KMOS Galaxy Evolution Survey (KGES): the angular momentum of star-forming galaxies over the last ≈10 Gyr"
MNRAS Accepted
A. L. Tiley, **S. Gillman**, L. Cortese, A. M. Swinbank , U. Dudzevičiūtė,C. M. Harrison, I. Smail, D. Obreschkow, S. M. Croom, R. M. Sharples, A. Puglisi

The Evolution of Gas-Phase Metallicity and Resolved Abundances in Star-Forming Galaxies from z≈0.6-1.8
MNRAS 500 4229G
S. Gillman, A. L. Tiley , A. M. Swinbank , U. Dudzevičiūtė , R. M. Sharples, Ian Smail, C. M. Harrison, Andrew J. Bunker, Martin Bureau, M. Cirasuolo, Georgios E. Magdis, Trevor Mendel and John P. Stott

2020 **A kpc-scale resolved study of unobscured and obscured star-formation activity in normal galaxies at z = 1.5 and 2.2 from ALMA and HiZELS**
MNRAS 499 5241C
Cheng Cheng, Edo Ibar, Ian Smail, Juan Molina, David Sobral, Andrés Escala, Philip Best, Rachel Cochrane, **Steven Gillman**, Mark Swinbank, R. J. Ivison, Jia-Sheng Huang, Thomas M. Hughes, Eric Villard and Michele Cirasuolo

From Peculiar Morphologies to Hubble–type Spirals: The relation between galaxy dynamics and morphology in star–forming galaxies at z ∼ 1.5
MNRAS 492 1492G
S. Gillman, A. L. Tiley, A. M. Swinbank, C. M. Harrison, Ian Smail, U. Dudzevičiūtė, R. M. Sharples, L. Cortese, D. Obreschkow, R. G. Bower, T. Theuns, M. Cirasuolo, D. Fisher, K. Glazebrook, Edo Ibar, J. Trevor Mendel and Sarah M. Sweet

2019 **The Dynamics and Distribution of Angular Momentum in HiZELS Star-Forming Galaxies at z = 0.8 – 3.3**
MNRAS 486 175G
S. Gillman, A. M. Swinbank, A. L. Tiley, C. M. Harrison, Ian Smail, U. Dudzevičiūtė, R. M. Sharples, P. N. Best, R. G. Bower, R. Cochrane, D. Fisher, J. E. Geach, K. Glazebrook, Edo Ibar, J. Molina, D. Obreschkow, M. Schaller, D. Sobral, S. Sweet, J. W. Trayford, T. Theuns

The Shapes of the Rotation Curves of Star-forming Galaxies Over the Last ∼ 10 Gyr
MNRAS 485 934T

Alfred L. Tiley, A. M. Swinbank, C. M. Harrison, Ian Smail, O. J. Turner, M. Schaller, J. P. Stott, D. Sobral, T. Theuns, R. M. Sharples, **S. Gillman**, R. G. Bower, A. J. Bunker, P. Best, J. Richard, Roland Bacon, M. Bureau, M. Cirasuolo, G. Magdis

Angular momentum of $z \sim 1.5$ galaxies and their local analogues with adaptive optics
MNRAS 485 5700S
Sarah Sweet, Deanne Fisher, Karl Glazebrook, Danail Obreschkow, **Steven Gillman**, Alfred Tiley, Claudia Lagos, Liang Wang, A. Mark Swinbank; Richard Bower, Ray Sharples

2018 **The core of the massive cluster merger MACS J0417.5-1154 as seen by VLT/MUSE**
MNRAS 483 3082J
Mathilde Jauzac, Guillaume Mahler, Alastair C. Edge, Keren Sharon, **Steven Gillman**, Harald Ebeling, David Harvey, Johan Richard, Michele Fumagalli, A. Mark Swinbank, Steven L. Hamer, Jena-Paul Kneib, Richard Massey , Philippe Salome

2017 **Galaxy cluster luminosities and colours, and their dependence on cluster mass and merger state**
MNRAS 472 3246
Sarah L. Mulroy, Sean L. McGee, **Steven Gillman**, Graham P. Smith, Chris P. Haines, Jessica Démoclès, Nobuhiro Okabe, Eiichi Egami

Conference and Research Talks

June 2021 **The Fundamental Properties of z=1 – 2 Star-Forming Galaxies**
DAWN Cake Talk: DAWN-IRES Mentor Introduction

March 2019 **The Angular Momentum Distribution in High Redshift Star-Forming Galaxies**
Life and Death of Star-Forming Galaxies, Perth, Australia

January 2019 **The Angular Momentum Distribution in High Redshift Galaxies**
DEX XV, Royal Observatory of Edinburgh, UK

December 2018 **The Redistribution of Angular Momentum in High Redshift Star-Forming Galaxies - A KMOS and SINFONI study**
KMOS @ 5, ESO, Garching, Germany

November 2018 **The Dynamics and Distribution of Angular Momentum in High Redshift Star-Forming Galaxies**
Friday Lunchtime Astronomy Talk, Durham, UK

March 2018 **Integral Field Galaxy Evolution**

Friday Lunchtime Astronomy Talk, Durham, UK

June 2017 **IFView of Galaxy Evolution**
Friday Lunchtime Astronomy Talk, Durham, UK

Telescope Proposals

2020 **2020A, PI, 39h, HAWK-I**
Resolving Clumps in High Redshift KMOS GTO Galaxies using HawkI Narrow Band Imaging.

2020A, PI, 19.8h, KMOS
Resolved Metallicity Gradients in Star Forming Main-Sequence Galaxies at $z \sim 1.5$

2018 **2018B, PI, 3h, HAWK-I**
Resolving Clumps in High Redshift KMOS GTO Galaxies across Cosmic Time using High Resolution HawkI Narrow Band Imaging

2018A, PI, 15h, KMOS
Resolved Metallicity Gradients in Star Forming Main-Sequence Galaxies at $z \sim 1.5$

Observing Experience

2018 **PauCam (WHT 4.2 m)**, Santa Cruz de La Palma, Spain *(4 nights)*
PI: N. Hatch, Understanding how $z > 1$ galaxy clusters form

2017 **OSIRIS (Keck 10 m)**, W. M. Keck Observatory, Maunakea, Hawaii *(3 nights)*
PI: K. Glazebrook, Resolving the evolution of galaxy angular momentum and metallicity

2017 **KMOS (VLT 8 m)**, Paranal Observatory, Chile *(3 nights)*
PI: R. Sharples, KMOS Galaxy Evolution Survey (KGES): Tracing the Dynamics, Star-Formation and Chemical Properties of Star-Forming Galaxies Across Half the Age of the Universe

Technical Skills

Experience reducing and analysing integral field spectroscopic observations. In particular: VLT-KMOS; VLT-SINFONI and Keck-OSIRIS

Programming knowledge of Python, Unix, LaTeX and basic HTML as well as experience using DS9, ESOREX, GALFIT and SEXTRACTOR

Responsibilities, Leadership and Teaching activities

2021 –	DAWN-IRES Mentor Project: Understanding Compact Star-Forming Galaxies at z$\sim$2 with $JWST$ and SIMBA
2019 – 2020	Departmental Galaxy Evolution Meeting (GEM) Organiser
2018 – 2019	Weekly Postgraduate Journal Club Organiser
2017 – 2020	Undergraduate Year 2 Stars and Galaxies Workshop Demonstrator
2017 – 2018	Weekly 1st Year Postgraduate Journal Club Organiser
2016 – 2017	Undergraduate Year 1 Problems Administrator

Awards and Scholarships

2016 – 2020	**STFC Postgraduate Studentship** Centre for Extragalactic Astronomy, Durham, UK
June 2015	**Gateway Internship Bursary** Dept. of Physics, University of Birmingham

Professional Memberships

2021 –	Junior Member of International Astronomical Union
2019 – 2021	Fellow of the Royal Astronomical Society
2016 –	Member of Institute of Physics
2013 – 2016	Student Member of Institute of Physics