

COMMISSION J1

GALAXY SPECTRAL ENERGY DISTRIBUTIONS

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TRIENNIAL REPORT 2021-2024

1. Background

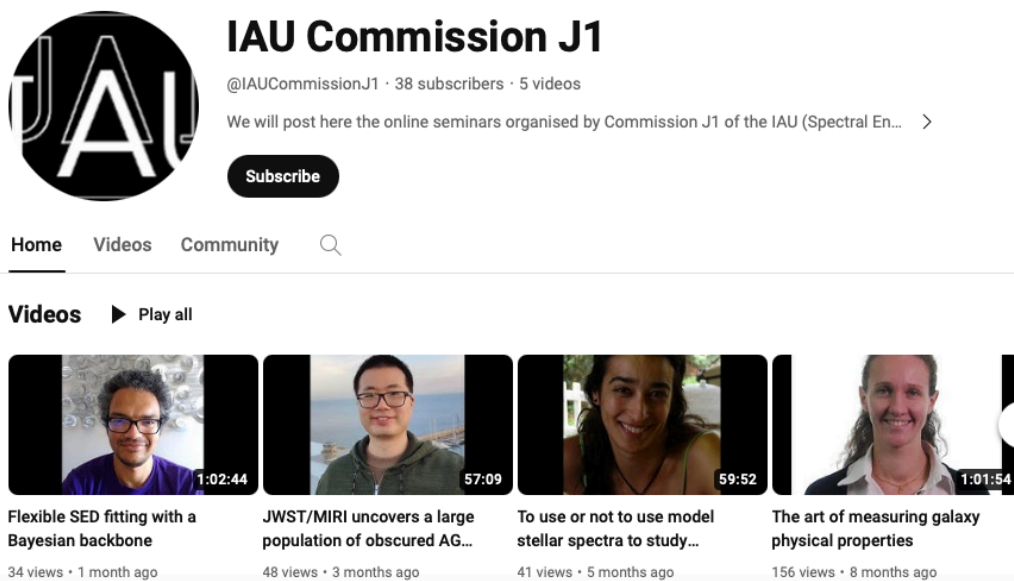
The spectral energy distributions (SEDs) of galaxies contain information on the stellar, gaseous, and dust content in galaxies, as well as on their cosmic rays and magnetic fields. Because of the multi-wavelength dimension and the large variety of physical processes involved, galaxy SEDs are of interest for many different astrophysical communities, both observational and theoretical. Accordingly, the mission of Commission J1 continues to be that of providing a forum for observers and theoreticians working in different fields of galaxy formation and evolution, cosmology, interstellar matter, our Galaxy and the nearby universe, stars and stellar evolution, high energy astrophysics, and astro-particle physics to tackle current challenges in modern astrophysics through galaxy SEDs.

Commission J1 was founded in August 2015 as an Inter-Division Commission, shared between Division D “High Energy Phenomena and Fundamental Physics”, Division G “Stars and Stellar Physics”, Division H “Interstellar Matter and Local Universe”, and Division J “Galaxies and Cosmology”, with Division J as the parent division of this Commission. Denis Burgarella was its first President and Cristina Popescu was its first Vice-President. In 2018 Cristina Popescu took over as President of the Commission, with Nikolaos Kylafis being elected Vice-President of the Commission. This reporting term had Nikolaos Kylafis as President and Ralf Sibenmorgen as Vice-President.

To date the commission has a total of 231 members, of which 10 are junior members. The number of members continue to increase each year, following the trend from previous years.

2. Activities in the past triennium

At the beginning of the new term, Commission J1 started with an evaluation of the number and distribution of its members. The analysis of the geographic distribution of



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The art of measuring galaxy physical properties	1:01:54	156 views	8 months ago

the members of Commission J1 showed a very wide spread, amongst all continents and a large number of countries, including countries with smaller astrophysics communities. The gender distribution showed that only a quarter of the members are female.

The President of Commission J1 participated in the parent Division's meetings. He read, ranked, and advised on the selection of IAU symposia. He also participated in the ranking and the selection of the IAU PhD Thesis prize.

This triennium Commission J1 started a bimonthly online seminar series to disseminate the latest advances in the area of spectral energy distributions of galaxies. The seminars are aimed at covering both theoretical and observational work, probing many of the underlying components (stellar populations, gas, dust), as well as different spectral bands. The talks have been held every other month on the second Monday of the corresponding month. An announcement is circulated to all J1 commission members a few days before the event. The talks are recorded and are uploaded to a YouTube channel that can be accessed from the IAU web page (iau.org / YouTube / channels) or in a standard search (YouTube @IAUCommissionJ1). We had a balanced gender and geographic distribution amongst our speakers, as well as representation from both established and early career scientists.

We propose that in the next 6 years Commission J1 should continue to capitalise on the following:

- promote inter-disciplinary research between different fields of astrophysics, both theoretical and observational, maximising science impact of existing data archives and modelling algorithms in the context of galaxy SEDs,
- facilitate collaborative projects for new observatories with strong potential for scientific leverage by linking different parts of the electromagnetic spectrum covered by existing or planned observatories,

- support the participation of under-represented minorities in the different fields of research linked to galaxy SEDs,
- promote the awareness of students and early career researchers to opportunities of cross-field research by organising and supporting school-type meetings linked to the theory and analysis of galaxy SEDs.