

SOFIA

Science e-Newsletter



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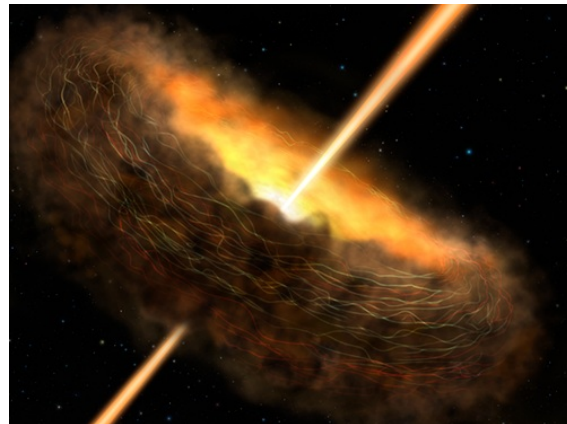
Magnetic Fields Confine the Torus at the Core of Cygnus A

Paper: [The Highly Polarized Dusty Emission Core of Cygnus A](#)

Lopez-Rodriguez, Enrique, et al., 2018, ApJL, 861, L23.

Observations from SOFIA reveal that magnetic fields are trapping and confining the obscuring dust near the center of the active galaxy, Cygnus A, and feeding material onto the supermassive black hole. The unified model of active galaxies maintains that the core is surrounded by a dusty torus that absorbs radiation at all wavelengths and re-emits it in the infrared. How this obscuring structure is created and sustained has never been clear, but these new results from SOFIA confirm that the magnetic field plays a crucial role.

Read more: [Science Spotlight](#)



Artist's conception of Cygnus A, surrounded by the torus of dust and debris with jets launching from its center. Magnetic fields are illustrated trapping dust near the supermassive black hole at the galaxy's core. Image Credit: NASA/SOFIA/Lynette Cook

New URL for the SOFIA Data Cycle System

<https://dcs.arc.nasa.gov>

The SOFIA Data Cycle System (DCS) server was changed on October 12, 2018 and has a new associated URL. There will be a transitional period until November 15, 2018 during which time the previous URL will display a webpage with the new URL. To avoid access issues, users should update their bookmarked DCS webpages as soon as possible.

A screenshot of the SOFIA Data Cycle System (DCS) website. The page has a dark header with the SOFIA logo and navigation links. Below the header, there is a "Message Of The Day" section with a link to a press release. The main content area is titled "Welcome to the SOFIA Data Cycle System!" and features a grid of four main sections: "User Support", "Proposal Development", "Observation Planning", and "Data Archive & Retrieval". Each section contains several links and icons. At the bottom, there is a footer with additional links and logos for NASA, SOFIA, and the DCS team.

All DCS user accounts and credentials have been transferred to the new website. Log-in is now required for features such as searching the Science Data Archive, Astronomical Observation Request (AOR) search pages, and the SOFIA Instrument Time Estimator (SITE).

Before November 15, 2018, the auto-update feature built-in to USPOT 3.5.0 will automatically download the new version. After November 15, 2018, the latest version of the Unified SOFIA Planning Tool (USPOT) v4.0.0 must be downloaded manually from the new DCS server. Visit the link below to manually download the latest version of USPOT, then start your current USPOT version and select “Quit Now and Install” when prompted.

The DCS manages SOFIA proposals and observation data, maximizing the scientific productivity and efficiency of the observatory by providing a suite of easy-to-use tools and infrastructure that are integrated with each other as well as other applications at each step in the data cycle. This includes USPOT, SITE, and the Target Visibility Tool (VT). The DCS also currently manages the Science Data Archive, the repository for all raw scientific and housekeeping data accumulated during SOFIA flights and any pipeline products produced thereafter.

[Download the latest version of USPOT](#)
[Bookmark the new DCS URL](#)

Reminder: Register for the SOFIA Workshop for FORCAST and HAWC+ Data Analysis at the 2019 Winter American Astronomical Society Meeting

Sunday, January 6, 2019
8:30 am-5:15 pm PST
Washington State Convention Center, Room 201
Fee: \$35

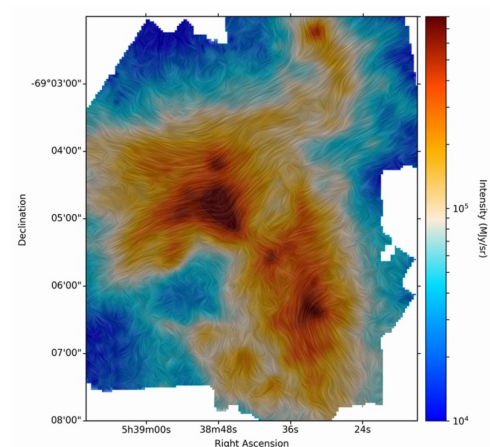
[Register for the workshop on the AAS registration page.](#) If you are already registered for the meeting, go to the registration page again and just add the workshop.

Astronomers interested in learning how to analyze SOFIA data are invited to enroll in the upcoming SOFIA workshop at the AAS. Participants will have the opportunity to work directly with SOFIA scientists on recently obtained, publicly available data sets from polarimetry observations using the High-resolution Airborne Wideband Camera-plus (HAWC+) and imaging and spectroscopic observations from the Faint Object infraRed CAmera for the SOFIA Telescope (FORCAST).

The workshop will begin with guided tutorials on working with and analyzing public data using SOFIA data analysis recipes. The tutorial will be followed by an interactive session where participants can analyze SOFIA data independently, with assistance readily available from SOFIA scientists. Public datasets like the polarimetry maps of 30 Doradus, recently obtained by HAWC+ will be made available to follow along with the tutorial and for the interactive session.

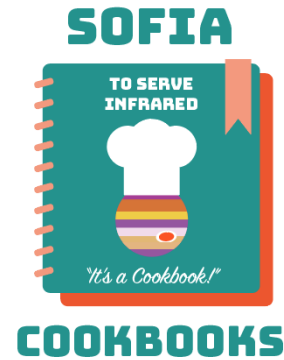
Workshop participants will have the first chance to choose their tour times for the SOFIA observatory tour at Boeing Field taking place on Monday, January 7, 2018 –Wednesday, January 9, 2019.

[SOFIA AAS Meeting Event webpage](#)



Latest Data Cookbook Recipe: FIFI-LS Basic Cube Analysis using SOSPEX

This latest data tutorial from SOFIA describes basic spectroscopic cube analysis using the SOFIA python tool SPECTRUM EXPLORER (SOSPEX), which displays Far Infrared Field-Imaging Line Spectrometer (FIFI-LS) and German RECEIVER FOR ASTRONOMY AT TERAHERTZ FREQUENCIES (GREAT) spectral cubes and allows the user to perform a number of basic analysis routines on them. The cube can be displayed as a 2D spatial image obtained as average along the wavelength dimension or as a spectrum.



The FIFI-LS cookbook recipe joins the FORCAST Photometry and How to View GREAT Spectra Using CLASS Utility in the compilation of the SOFIA Data Cookbook. The cookbooks recipes contain descriptions and guided examples of common data analysis objectives using SOFIA processed data. They are written for a graduate student audience and are intended to be used with the Data Handbooks.

[View the Cookbook Recipes and Data Handbooks on the Data Resources webpage](#)

Tele-Talks

SOFIA Tele-Talks are scientific presentations given via phone, with slides distributed ahead of time. The talks are targeted broadly towards members of the astronomy community who are interested in SOFIA science and in the current and potential scientific capabilities of the observatory. The talks are organized by Dan Lester (Univ. of Texas, Austin) and held approximately twice a month on Wednesdays at 9:00am Pacific, noon Eastern.

For information on how to participate in the tele-talks, please check the [SOFIA Tele-Talk page](#).

The next Tele-Talks are:

- October 24: Bhaswati Mookerjea (Tata Institute for Fundamental Research)
- November 14: Judy Pipher (University of Rochester)
- November 28: Jingzhe Ma (University of California, Irvine)
- December 5: Gordon Stacey (Cornell University)
- December 19: Christopher Materese (NASA GSFC)

Executive Editor: Joan Schmelz
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Please feel free to direct questions and comments to the SOFIA Science Center help desk: sofia_help@sofia.usra.edu.

