Spitzer Space Telescope

Guidelines for Submission of Director's Discretionary Time Proposals

Version 4.0 **8 November 2018**

DDT Proposal Review Deadlines: **February 8, 2019**
May 10, 2019
September 10, 2019

DDT proposals are submitted through the online application form, not Spot.

Apply here: https://catcopy.ipac.caltech.edu/ddt/proposal.php

Proposal Kit: http://ssc.spitzer.caltech.edu/warmmission/propkit
Helpdesk: help@spitzer.caltech.edu

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Document Change Control Record

Date	Version	Author	Description
2018 November 8	4.0	Lisa Storrie-Lombardi & the SSC Community Affairs Team	Updated to take into account the continuation of science operations through January 2020.
2018 February 15	3.0	Lisa Storrie-Lombardi, Nancy Silbermann & the SSC Community Affairs Team	Updated to take into account 8-month extension of the mission.
2017 December 15	2.0	Lisa Storrie-Lombardi, Nancy Silbermann & the SSC Community Affairs Team	Updated to take into account the Cycle-14 call for proposals. Only time critical DDT proposals may be submitted.
2017 March 14	1.1	Lisa Storrie-Lombardi, Nancy Silbermann & the SSC Community Affairs Team	Text added to specifically state that previously rejected GO proposals should not be resubmitted as DDT proposals.
2016 October 13	1.0	Lisa Storrie-Lombardi, Nancy Silbermann & the SSC Community Affairs Team	Initial version issued

The Spitzer Science Center (SSC) is operated by the California Institute of Technology for the Jet Propulsion Laboratory (JPL) and the National Aeronautics and Space Administration (NASA).

1 Overview

Spitzer is executing the "Beyond" phase of the mission – the final 3+ years. **The Beyond phase will continue through January 2020.** Director's Discretionary Time (DDT) proposals are solicited, through the remainder of the mission, for new, high-impact science programs.

1. Up to 3,000 hours of observing time is available.

2. The schedule of observations selected in Cycles 13-14 is relatively full through April 2019. Substantial observing time is available from May 2019 onwards.

3. DDT proposals may be submitted at any time through November 2019. Investigators should not utilize DDT to resubmit all or part of a proposal that was rejected by the normal peer review process.

4. Proposals of any size may be submitted. Proposers should carefully check their target visibilities to understand what fraction of the time the target is visible they are requesting.

5. All proposals receive science and technical reviews. Proposals that are not time critical will be reviewed on a structured schedule. The DDT review deadlines and expected earliest execution date for approved observations are:

Proposal Deadline	Estimated Earliest Possible Execution Date
February 8, 2019 – noon PST	mid-April
May 10, 2019 – noon PDT	mid-July
September 10, 2019 – noon PDT	mid-November

   a. The review of time-critical proposals will be done as rapidly as resources allow.
   b. The review of programs ≥ 100 hours may involve special handling.

6. **All PIs that submit a DDT proposal will receive up to three proposals to review as part of the structured review process.**

7. The default proprietary period for all DDT programs is zero days. A maximum 90-day proprietary period can be proposed and should be justified.

8. DDT requests must include:
   a. A strong scientific justification (and justification of time criticality, if requested).
   b. A strong justification for timing constraints, if requested.
   c. A description of the long-term legacy value of the program.
   d. Completed Astronomical Observation Requests (AORs).

9. The proposal must be submitted using the **DDT proposal template (version 3**) and follow the page limits and other instructions provided in these guidelines.

10. The proposal must be submitted through the DDT web form (not Spot) at https://catcopy.ipac.caltech.edu/ddt/proposal.php.

11. No direct data analysis funding is available for successful DDT proposers. US-based PIs or CoIs can request page charges for publishing work that directly results from your observing program. Send an email to the Spitzer Helpdesk (help@spitzer.caltech.edu) at the time of the paper submission to request approval of support. The paper must be published and the funding requested while the Spitzer Science Center is still operating, which is expected to be through January 2021.

2 Quick Proposal Submission Guide

All DDT proposals must be submitted through the online application webpage at (https://catcopy.ipac.caltech.edu/ddt/proposal.php). *Spot* is required for creating your AORs.

1. Go to the Proposal Kit webpage (http://ssc.spitzer.caltech.edu/warmmission/propkit/). All of relevant information is available there.
2. Install the *Spot* software package.
3. Create your AORs in *Spot* and save the AOR file.
4. Download the proposal template. Write the proposal and then save as a PDF file.
5. Go the DDT application webpage (https://catcopy.ipac.caltech.edu/ddt/proposal.php).
    a. Enter the coversheet information into the web form.
    b. Attach the proposal PDF file.
    c. Attach the AOR file.
6. Hit the submit button. Proposals cannot be updated through the web form. If you need to resubmit a proposal, just submit it again and notify the Helpdesk that the earlier version should be ignored.

The Spitzer Observing Rules (http://ssc.spitzer.caltech.edu/warmmission/propkit/sor/) and the Cycle-14 Call for Proposals (http://ssc.spitzer.caltech.edu/warmmission/propkit/cp/) provide detailed information about proposal planning, supporting documentation and policies.

NOTE: Support for programs requesting execution in less than 8-10 weeks is extremely limited and is often infeasible due to resource limitations. Please consult with the Helpdesk as far in advance as possible so that the SSC can advise on the feasibility of your proposed observations.

3 Operational Observing & Data Volume Constraints

Proposals can include observations that are constrained, with the caveat that the more constrained the program, the harder it is to schedule. Data volume is a limiting factor due to the downlink rate, as Spitzer is more than 1.7AU from the Earth. Very high data volume proposals are not prohibited but will be executed only in extraordinary circumstances. Table 1 summarizes the observing modes, frame times and a rating of the expected data volume. **If your observations require a 'very high' data volume mode, please consult with the SSC before you submit your proposal to determine the feasibility of your proposed observation.**

Mode	Frame Time (secs)	Data Volume
Full-array	0.4, 2	Very High
Full-array & HDR	6, 12, 30	Moderate
Full-array & HDR	100	Low
Sub-array	0.02, 0.1	Very High
Sub-array	0.4	Moderate
Sub-array	2	Low

Table 1: The Data Volume Ratings for the available observing modes and frame times. These ratings apply to data taken with "data collection" turned on for one or both arrays.

The SSC IRAC Instrument Support Team recommends that single target staring observations that would require 6-12 second full-array observations be done with 2 second sub-array observations (http://irachpp.spitzer.caltech.edu/page/exptime).

To maintain the minimum recommended battery charge level all observations for two hours after a downlink must be at a pitch angle < 10 degrees. The time required at low pitch angle may increase in 2019. Very long staring observations may require interruption by a downlink pass. If it is feasible the SSC will try to schedule these when they are at low pitch angles to minimize the time of the interruption.

4 Proposal Page Limits

Proposal Size	Small ≤ 10 hrs	Medium 10 < hrs < 100	Large ≥ 100 hrs
Science Plan Sections	hours ≤ 10	10 < hours < 100	hours ≥ 100
Science Justification	1	2	3
Technical Justification	1	1	1
Figures, Tables, References	1	2	2
Total for Science Plan	**3**	**5**	**6**
Additional Required Sections - subject to page limits			
Summary of Existing Programs	1	1	1
Additional Required Sections - NOT subject to page limits			
Observation Summary Table			
Modification of Proprietary Period			
Summary of Duplicate Observations			
Summary of Scheduling Constraints/Targets of Opportunity			

Table 2: Page limits for DDT proposals.

More detailed descriptions of what should be included in each section are provided in the proposal templates and the recent Cycle-14 Call for Proposals (see section 2 above). Figures and tables can be embedded in the narrative or segregated. Do not include any additional material.

5 Special Telescope Overheads

Special overhead burdens are applied to observations that need to be executed less than 8 weeks after the AORs are available to schedule at the SSC. During the cryogenic mission these were designated as high- or medium-impact Targets of Opportunity. This special overhead is added to the normal overhead applied to each Astronomical Observation Request (AOR) computed by *Spot*, the software required for Spitzer observation planning. It accounts for the time required to prepare for the observation and to return the Telescope to its nominal schedule. As described in the *Spitzer Space Telescope Warm Mission Observing Rules*, the special overhead is intended to reflect the observing time lost in other programs as a result of executing the relevant observation(s).

If your DDT proposal includes requested execution of the AORs within 8 weeks of approval of the proposal you must include these overheads in the total requested observation time. The relevant special overheads are:

Execute in < 1 week • High-Impact Target of Opportunity: 6.5 hours
This overhead will be applied to the first AOR in a *group*, *chain* or *sequence* of AORs to be executed consecutively during a single observing session on a single target. For observations that are constrained with a *follow-on* constraint, the overhead must be applied to every AOR individually. The *group*, *chain* or *sequence* constraints mean that observations can be scheduled contiguously and therefore have less impact on the schedule than those constrained with a *follow-on* constraint.

Execute in 1 – 8 weeks • Medium-Impact Target of Opportunity: 2.6 hours
This overhead will be applied to the first AOR in a *group, chain or sequence* of AORs to be executed consecutively during a single observing session on a single target. For observations that are constrained with a *follow-on* constraint, the overhead must be applied to every AOR individually.

These overheads must be specified using *Spot* when the AORs for the proposal are created. From within the relevant AOR dialog click the **Special …** button and select the overhead from the list. *Spot* will calculate the required time and add it to the Total Duration returned on the main *Spot* AOR page.