

DKIST Critical Science Plan Workshop: Magnetic connectivity through the solar atmosphere

Introduction to the Critical Science Plan; and Life cycle of a Science Use Case

- DKIST Critical Science Plan – context, resource locations
- Workshop focus – Science Use Case development (JIRA, FIDO, IPCs)
- The future – transition to Observing Proposals

DKIST Critical Science Plan (CSP):

Aim: to be ready, *as a community*, by science first light to execute a set of observations that take advantage of the DKIST capabilities to address critical compelling science in the first two years of operations (2020, 2021)

As a community we must:

- understand forthcoming capabilities
- define science goals
- compile Science Use Cases
- coordinate to form a complementary set of PI lead teams
- convert Science Use Cases into PI led Observing Proposals

This will enable:

- Service Mode observations
- Scientific analysis
- PI led publication of first-light results

Untitled - Edited

dkist.nso.edu/CSP

Web of Scien...lection Home Homepage - A...ata Analysis Noteshelf AirTransfer DKIST Critical... Plan | DKIST Album: Images SpectroWeb

NSO

DKIST

DANIEL K. INOUE SOLAR TELESCOPE NSO NISP Education

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DKIST Critical Science Plan

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- DKIST in Hawaii
 - Cultural
 - Educational
 - Environmental
 - Remote Office
- Media
 - Images
 - Videos
- Science
- Critical Science Plan
 - Research Areas
 - Science Use Case Development (JIRA)
 - Instrument Suite
 - Science Working Group
- Engineering
- Meetings
- Library
- Log In

The DKIST Critical Science Plan (CSP) is being formulated (these pages). It will define critical science goals for the first or two years of DKIST operations, and in the process help refine data handling procedures and science operations. The aim is to be ready by start of operations to execute a set of observations that take advantage of the DKIST capabilities to address critical compelling science. The Critical Science Plan will be built up from a set of PI led Science Use Cases (team or individual efforts). These will be converted into Observing Proposals for consideration by the DKIST Time Allocation Committee (TAC) before first light.

Most CSP observations will be conducted in *Service Mode*, though *Access Mode* will also available to support specific needs. Along with standalone DKIST projects, coordinated observations with other observing facilities or platforms are encouraged and will be supported to meet the science goals.

As scientific goals are expected to evolve between now and DKIST first light, we anticipate that the development of the CSP will be an iterative process subjected to adjustment and revision. The development steps currently envisioned:

- Submission of Science Use Cases (**Science Use Case Preparation**) by a broad range of community members, to include:
 - a statement of the scientific goals
 - a definition of the required instrument suite to be employed
 - an assessment of the multi-instrument configuration compatibility
 - a description of the basic data needs (image or spectra, wavelengths, cadences, and photometric, spectroscopic and polarimetric precisions)
 - a summary of the observing strategy and any joint facility coordination needs
- Coordination of Science Use Cases (**Science Use Case Preparation**), to include:
 - reformulation of DKIST Critical Science Plan based on Science Use Cases submissions
 - self organization of Science Use Case teams to consolidate effort
 - identification of Science Use Case team leads (to serve as Observing Proposal PIs)

This coordination phase aims to minimize overlap of individual Science Use Cases. It is not required, and overlapping proposals can be submitted to the TAC for review. The goal is to formulate, as a community, a complimentary set of PI led Science Use Cases (team or individual efforts) that together, as the Critical Science Plan, capture the most compelling critical science.
- Conversion and translation of Science Use Cases into DKIST Observing Proposals
- Observations at the DKIST following approval by the Time Allocation Committee (TAC)
- Analysis and publication, to include:
 - analysis of science data
 - feedback to project (for analysis package development)
 - PI led team publication of scientific results, as appropriate, in special volumes highlighting critical DKIST first-light science results

<http://dkist.nso.edu/CSP>

Critical Science Plan Structure:

Research Areas

Research Topics

Science Use Case

Observing Proposal

Bottom-up approach:

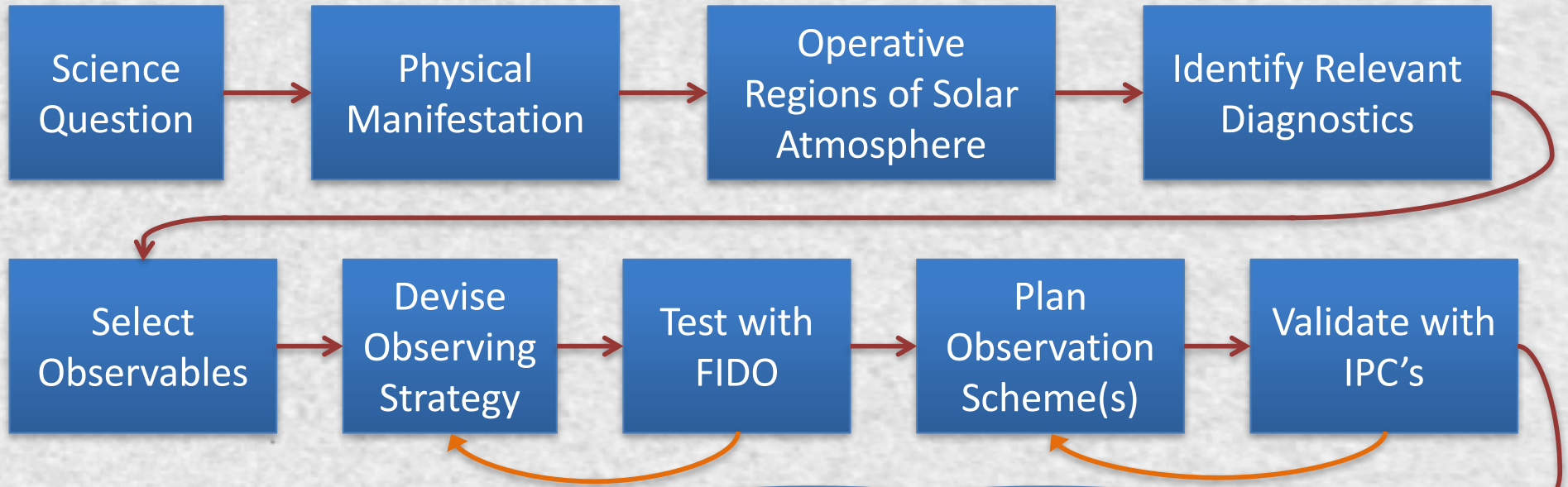
CSP is built on community led Science Use Cases *some of which will be executed as Observing Proposals*

Important Points:

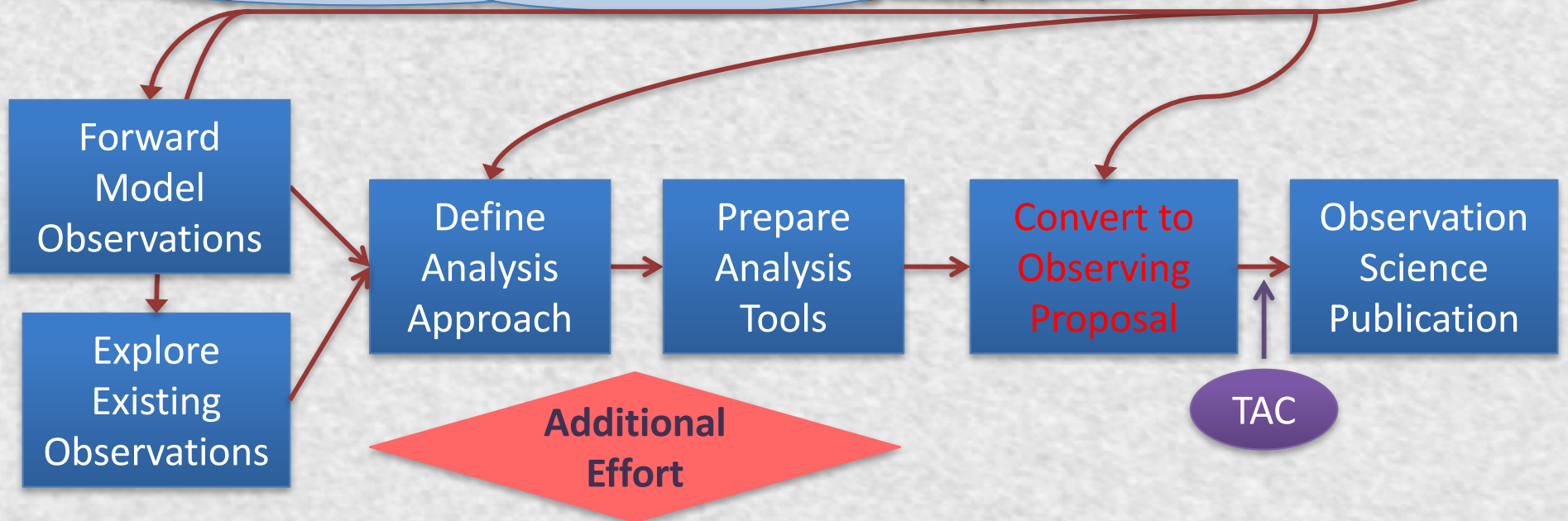
1. This process will likely be iterative – CSP structure (that you see on the website) is intended as a helpful but non-rigid framework and the science will evolve.
2. The CSP process is not exclusive (all welcome) nor unique (direct submission of observing proposals to the NSO DKIST Time Allocation Committee (TAC) under a standard submission and review process will also be possible). **The CSP (and this workshop) advantage is informational.**
3. Observing proposals developed as a result of participation in the DKIST Critical Science Plan effort (including this workshop) will be reviewed by the NSO DKIST TAC along with proposals submitted outside of the CSP structure.
4. There is *no* automatic conversion of Science Use Cases to Observing Proposals – **success is dependent on continued engagement beyond this workshop proper and beyond the completed Science Use Case.**
5. The development of the CSP in advance of the start of operations helps the project beyond science definition – it helps in the development of essential operations and data management tools

Science Use Case → Observing Proposal → TAC review → Observations

**Coordinate PI-led Science Use Case teams – review
Critical Science Plan and existing Science Use Cases**



**Coordinate PI-led Observing Proposal teams –
guidance from DKIST Science Working Group**



DKIST CSP JIRA Site (<https://nso-atst.atlassian.net/secure/Dashboard.jspa>)



🔍 Dashboards

📁 Projects

📄 Issues

⚙️ Settings

🛡️ Tests

NEW JIRA EXPERIENCE

🔔 What has changed?

⌵ Turn off for now

CSP Community DB

Introduction ...

Welcome to the DKIST Critical Science Plan development project.

Heat Map ...

Filament Other Plage or
 Network Prominence Quiet Corona
 Quiet Sun Sunspots
 and/or Pores None

There are 8 distinct 'Type of Target(s)' values in 81 Issues

Pie Chart: All CSP ...

Research Topic
Total Issues: 81

- MC, M&EF: The Chromosphere-C... 11
- None 10
- MHD&DP: Small-Scale Photospher... 9
- MHD&DP: Sunspots: Umbral and P... 9
- F&EA: Coronal Magnetic Field Stru... 7
- MHD&DP: Wave Generation and Pr... 6
- F&EA: Magnetic Field Connectivity... 4
- LTS: Long-Term Studies of the Sun 4
- MC, M&EF: Spicule Physics 3
- MHD&DP: Flux Emergence and Ac... 3
- Other... 15

Activity Stream ...

December 11

Valentin Pillet created UC-91 - Physical conditions at the Current Sheet trailing CMEs

👤 LLL 🗨️ Comment 👍 Vote 👁️ Watch

December 08

Valentin Pillet commented on UC-90 - Synoptic Coronal Observations in support of PSP and Solar Orbiter

👤 LLL 🗨️ Comment 👁️ Watch

Done

Alexandra Tritschler commented on UC-90 - Synoptic Coronal Observations in support of PSP and Solar Orbiter

Hi Valentin, just a small correction: yes, the program asks for coordination but please choose "Synoptic" as Program Type.

👤 LLL 🗨️ Comment 👁️ Watch

December 07

Valentin Pillet created UC-90 - Synoptic Coronal Observations in support of PSP and Solar Orbiter

👤 LLL 🗨️ Comment 👍 Vote 👁️ Watch

Two Dimensional Filter Statistic... ...

Type of Target(s)	Cryo-NIRSP (http://dkis)
Filament	3
Other	2
Plage or Network	3
Prominence	3
Quiet Corona	4
Quiet Sun	6
Sunspots and/or Pores	6
None	0
Total Unique Issues:	12

Showing 8 of 8 statistics.
Grouped by: Instrument Set Definition

Bubble Chart: All CSP ...

DKIST CSP: JIRA User's Guide

Create a new Science Use Case

All CSP Save as ★

Issues

All CSP

My open issues

Reported by me

All issues

Open issues

Done issues

Viewed recently

Created recently

Resolved recently

Updated recently

Manage filters

Issue

Project

Issue

Project

Create issue

Project*

Critical Science Plan: Use C...

Issue Type*

Science Use Case

Some issue types are unavailable due to incompatible field configuration and/or workflow associations.

Summary* (NOTE: Summary == Title)

Principal Investigator

Start typing to get a list of possible matches.

<p>Note: Must have CSP Account setup</p>

PI Affiliation

Abstract

Please provide a short summary of your Science Use Case.

Additional Users to E-mail

Start typing to get a list of possible matches.

Program Type

None

Regular (None of the below)

Target of Opportunity

Synoptic

Coordinated

Please select from the above.

Target of Opportunity: Can be something that is infrequent but predictable (e.g., Planetary Transit) or unpredictable (e.g., a flare).
Synoptic: Observations extending over multiple proposal cycles.
Coordinated: Requires active coordination with another facility.

Create another

DKIST CSP: JIRA User's Guide

Editing your Science Use Case (PI, Co-I)

All CSP Save as ★

Critical Scienc... Type: All Status: All Assignee: All Contains text More Advanced

Order by ▼

- UC-91 Physical conditions at the Current Sheet trailing CMEs
- UC-90 Synoptic Coronal Observations in support of PSP and Sola...
- UC-89 Tracking the evolution of Corona Mass Ejections plasma
- UC-88 Properties of the solar wind source regions
- UC-87 Fine-structure of macro-spicules
- UC-86 Neutral Line Magnetic Context of Active Region Coronal H...
- UC-85 The cold chromosphere: Mapping CO spatial and temporal...
- UC-84 Resolving the spatial and temporal evolution of event-drive...
- UC-83 Flux Emergence Rates of Super-small-scale Magnetic Fields
- UC-82 Photospheric magnetic energy input and the chromospheri...
- UC-81 Chromospheric Signatures of Active Region Microflares
- UC-80 Chromospheric and photospheric magnetic field evolution ...
- UC-79 Spectro-polarimetric detection of propagating Alfvén waves
- UC-78 Reconnection events in the low solar atmosphere driven b...
- UC-77 Quasi-periodic oscillations with respect to high altitude re...
- UC-76 Sub-Arcsec Magnetic Signatures of the Fine Coronal and ...
- UC-75 Accumulation of magnetic twist in eruptive filaments in chr...
- UC-74 Emerging Flux: Current (de)Neutralization and reconnection
- UC-73 On the origin of isolated pores in the quiet-Sun and active-...

Physical conditions at the Current Sheet trailing CMEs

Resolution: Unresolved Labels: None

GENERAL INFORMATION SCIENCE JUSTIFICATION OBSERVATION SPECIFICS TARGET SPECIFICS INSTRUMENT SPECIFICS

PI Affiliation: National Solar Observatory

Abstract: CMEs eruption are known to have a trailing current sheet where reconnection occurs and that likely results in the post flare loops arcades. By doing off-limb spectroscopy and polarimetry of this region we can constrain the physics of the reconnection processes.

Program Type: Target of Opportunity

Observing Coordination: We will need to make sure a CME is occurring and understand where the current sheet behind the CME is

Edit issue: UC-91 Configure fields ▼

GENERAL INFORMATION SCIENCE JUSTIFICATION OBSERVATION SPECIFICS TARGET SPECIFICS INSTRUMENT SPECIFICS

Summary* Physical conditions at the Current Sheet trailing CMEs

Principal Investigator vmpillet

Start typing to get a list of possible matches.

<p>Note: Must have CSP Account setup</p>

PI Affiliation National Solar Observatory

Abstract CMEs eruption are known to have a trailing current sheet where reconnection occurs and that likely results in the post flare loops arcades. By doing off-limb spectroscopy and polarimetry of this region we can constrain the physics of the reconnection processes.

Please provide a short summary of your Science Use Case.

Additional Users to E-mail Adam.Kowalski, Gianna.Cauzzi, han.huitenbroek, katharine.reeves

Start typing to get a list of possible matches.

Program Type

- None
- Regular (None of the below)
- Target of Opportunity
- Synoptic
- Coordinated

Please select from the above.

Target of Opportunity: Can be something that is infrequent but predictable (e.g., Planetary Transit) or unpredictable (e.g., a flare).
Synoptic: Observations extending over multiple proposal cycles.
Coordinated: Requires active coordination with another facility.

Observing Coordination

We will need to make sure a CME is occurring and understand where the current sheet behind the CME is located. This might require AIA/IRIS coordination.

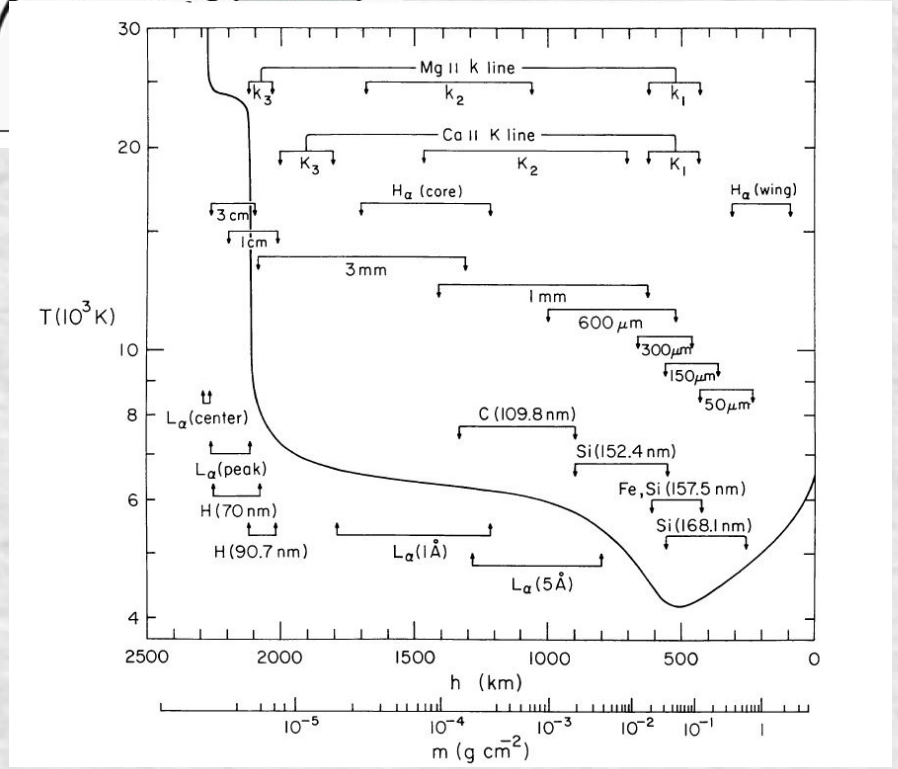
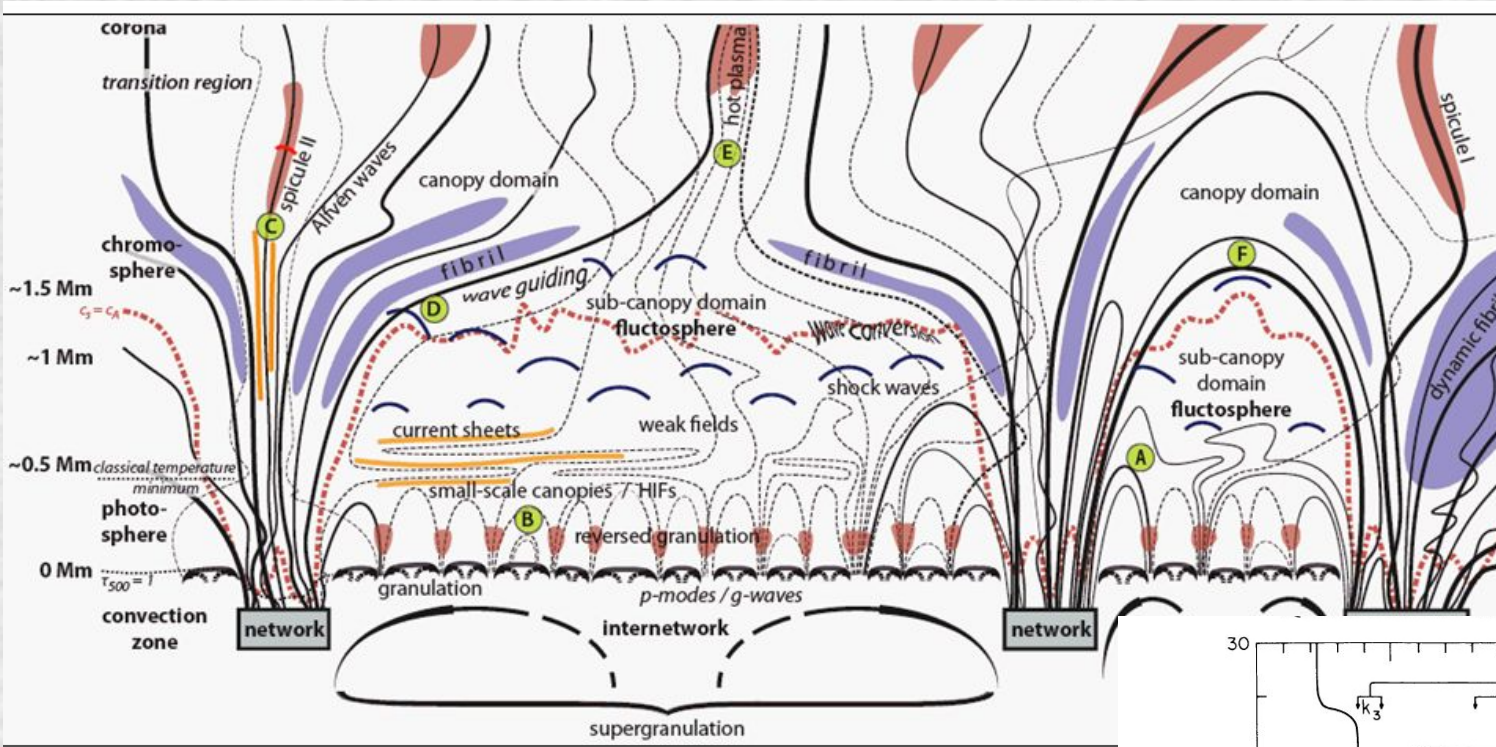
If the observations require coordination with another facility, please elaborate on the details of the planned coordination.

Update Cancel

DKIST CSP **Science Use Case** development strategy:

1. Formulate science context and goals
(JIRA form tabs – General Information, Science Justification, Target Specifics)
2. Identify observational needs (spectral lines of interest, pattern, cadence, sensitivities)
(JIRA form tab – Observation Specifics, Instrument Specifics)
3. Determine useful DKIST instrument suite
(JIRA form tabs – Observation Specifics, Instrument Specifics)
**FIDO – aka Coudé configuration and Data Rate tool,
aka Beam Splitter Tool**
4. Assess instrument performance capabilities
(JIRA form tabs – Instrument Specifics)
Instrument Performance Calculators (IPCs)

Formulate science context and goals, and observation strategy



Vernazza et al. 1981

Determine useful DKIST instrument suite

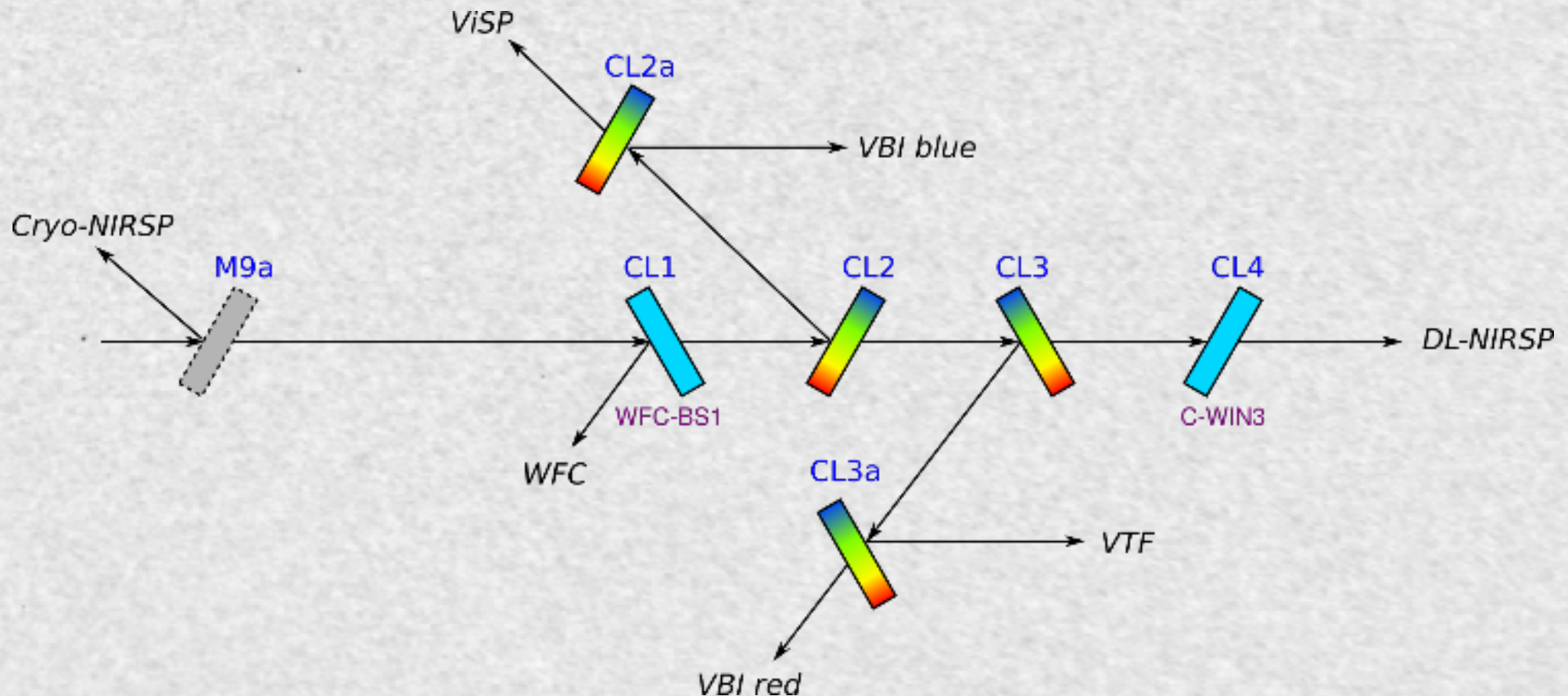
DKIST Instrument Summary Table

<http://dkist.nso.edu/CSP/instruments>

	Instrument type	Spectral range	Spectral resolution	Spatial sampling	Maximum Instantaneous Field of View	Maximum Sampled Field of View	Peak Cadence	Analogous Instruments
Visible Broadband Imager <i>VBI (Blue)</i>	High Cadence, High Resolution Imager	390-550nm (sequential filter sequencing)	N/A	0.011"	45" x 45"	2' x 2' (sequential field sampling)	3.2 sec (reconstructed) 0.03 sec (raw images)	ROSA, Hinode/BFI <i>High cadence, high spatial resolution</i>
Visible Spectropolarimeter <i>ViSP</i>	Scanning Slit Spectropolarimeter	380-900nm (3 spectral windows at a time)	>180,000	0.0195" (arm 1) 0.0236" (arm 2) 0.0295" (arm 3) [sampling along slit]	5 slits Width x Length 0.028" or 50" (arm 1) 0.053" or x 60" (arm 2) 0.106" or 75" (arm 3) 0.214"	Slit length x 2'	0.5-10 sec per slit position (polarimetry) 0.02-0.2 sec per slit position (intensity-only)	SPINOR, Hinode/SP, IRIS, GRIS <i>Scanning spectrograph, high spectral fidelity</i>
Visible Tunable Filter <i>VTF</i>	Fabry Perot Imaging Spectropolarimeter	520-870nm (sequential scans through multiple spectral lines)	FWHM 6-8 pm	0.014"	60" x 60"	60" x 60"	Typical scan times per spectral line: 0.5-2 s (intensity only); 2-10 s (polarimetry)	IBIS, CRISP, GFPI <i>Imaging spectropolarimeter</i>
Visible Broadband Imager <i>VBI (Red)</i>	High Cadence, High Resolution Imager	600-860nm (sequential filter sequencing)	N/A	0.017"	69" x 69"	2' x 2' (sequential field sampling)	3.2 sec (reconstructed) 0.03 sec (raw images)	ROSA, Hinode/BFI <i>High cadence, high spatial resolution</i>
Diffraction Limited Near Infrared Spectropolarimeter <i>DL-NIRSP</i>	Integral Field Unit Spectropolarimeter	500-900nm 900-1350nm 1350-1800nm (1 filter band per channel)	125,000	0.03" (high res) 0.077" (mid res) 0.464" (wide field)	2.4" x 1.8" (high res) 6.16" x 4.62" (mid res.) 27.84" x 18.56" (wide)	2' x 2'	Depends on resolution and total field of view. E.g. 6s for one tile, on-disk, high resolution, full polarimetry	SPIES <i>True Imaging Spectropolarimeter: simultaneous 2D FOV and spectral information using fiber-fed IFU</i>
Cryogenic Near Infrared Spectropolarimeter <i>Cryo- NIRSP</i>	Scanning Slit Spectropolarimeter	1000-5000nm (1 filter band at a time. About 70 s to switch filters)	100,000 on-disk 30,000 off-limb	0.12" [along slit] (no Adaptive Optics)	2 slits 0.15" x 120" slit 0.5" x 240" slit	4' x 3' (near limb) 5' round (off-limb)	Heavily depends on signal to noise. Maximum frame rate is 10 frames per second e.g. 1s per slit position near-limb/ chromosphere	CYRA (BBSO) <i>Cryogenic, scanning spectrograph, novel diagnostics</i>
Cryo-NIRSP <i>Context Imager</i>	Imager	1000-5000nm (1 filter band at a time, with fast switching time to support sequential observations during a single-band spectrograph scan.)	N/A	0.052" (no Adaptive Optics)	100" x 100"	4' x 3' (near limb) 5' round (off-limb)	Heavily depends on signal to noise. Maximum frame rate is 10 frames per second e.g. 1s per slit position near-limb/ chromosphere	CYRA (BBSO) <i>Cryogenic, scanning spectrograph, novel diagnostics</i>

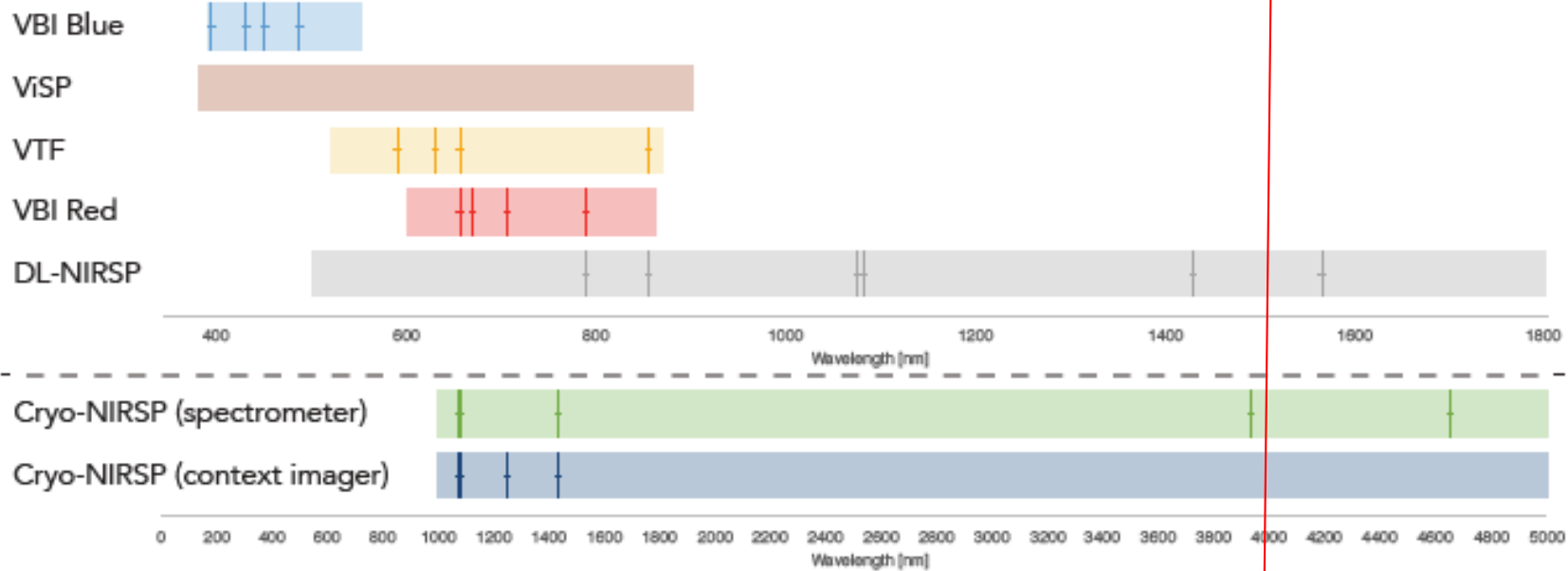
Facility Instrument Distribution Optics (FIDO):

- FIDO diverts short and *passes long wavelengths* with each successive beamsplitter encounter (a few exceptions)
- Changing from one optical configuration to another is a manual process that requires up to one day to complete
- An exception is the light distribution to the Cryo-NIRSP -- Cryo-NIRSP receives all the light, can not operate simultaneously with any of the other DKIST instrumentation or the adaptive optics system, can be accessed within several tens of minutes .



DKIST Instrument Summary Table

<http://dkist.nso.edu/CSP/instruments>



Instrument	Key Features / Wavelengths
VBI Blue	Ca II K 393.327nm G-band 430.52nm Continuum 450.287nm H-beta 486.1nm
ViSP	Access to entire spectral range between 380-900 nm
VTF	Na D 589.6nm Fe I 630.25nm H-alpha 656.3nm Ca II 854.2nm
VBI Red	H-alpha 656.282nm Continuum 668.423nm Ti O 705.839nm Fe XI 789.186nm
DL-NIRSP	Fe XI 789nm Ca II 854.2nm Fe XIII 1074.7nm He I 1083nm Si X 1430nm Fe I 1565nm
Cryo-NIRSP	Fe XIII 1074.7nm Fe XIII 1079.7nm He I 1083 nm Si X 1430nm Si IX 3935 nm CO 4651nm
Cryo Context	Fe XIII 1074.7nm He I 1083nm J Band 1250nm Si IX 1430nm

This table is meant to give an idea of the capabilities of the DKIST first light instrument suite. It cannot capture the large trade space that is provided by the flexibility of the instruments. For more information, visit <http://dkist.nso.edu/CSP/instruments>

Visible light cameras for instruments are provided by a UK consortium.



Beam Splitter and Data-rate Analysis Tool

<http://dkist.nso.edu/CSP/instruments>

INPUTS:

Wavelengths and modes for each desired instrument

Priorities can also be used for optimization (instrument selection)

DKIST

VBI

Camera 1 393 nm 430 nm 450 nm 486 nm
ReconstructedImage ReconstructedImage ReconstructedImage ReconstructedImage
Priority: 1 1 1 1

Camera 2 656 nm 668 nm 705 nm 789 nm
ReconstructedImage ReconstructedImage ReconstructedImage ReconstructedImage
Priority: 1 1 1 1

VTF

Cameras 525 nm 630 nm 656 nm 854 nm
UnbinnedPolarimetric Mode
Priority: 1 1 1 1

VISP

Camera 1 wavelength [nm]: 700 Priority: 1
 Camera 2 wavelength [nm]: Priority: 1
 Camera 3 wavelength [nm]: Priority: 1

VeryFastCadence (intensity only)

DL-NIRSP

Camera 1 789 nm 854 nm Priority: 1
 Camera 2 1074 nm 1083 nm Priority: 1
 Camera 3 1430 nm 1565 nm Priority: 1

FastCadence (low pol. precision)

Analyze Configuration

Output to be included under INSTRUMENT SPECIFICS tab on JIRA form

Instrument Performance Calculators

- Set of tools (i.e. software programs/applications) to explore instrument capabilities – e.g. line selection, exposure times, SNR etc.
- A *separate* IPC needs to be run for each instrument. VBI and VTF are Java applications (1.9); ViSP and DL-NIRSP run in IDL (8+). (The Cryo-NIRSP IPC unfortunately is not yet ready for distribution)

[Instrument Performance Calculators:](http://dkist.nso.edu/CSP/instruments)
<http://dkist.nso.edu/CSP/instruments>

Output can be attached to JIRA form for sharing with team and for possible future Science Use Case development

<http://nso-atst.atlassian.net/>

Web of Science...lection Home Noteshef AirTransfer Homepage - A...ata Analysis DKIST Critical... Plan | DKIST Album: images SpectroWeb BASS2000: Solar spectrum Fishing | No...man Magazine

All CSP Save as Details ★

Critical Scienc... Type: All Status: All Assignee: All Contains text More Advanced

- UC-72 Observe Coronal and Chromospheric Jets in ...
- UC-71 Structure, Dynamics, and Magnetic Environ...
- UC-70 Magnetic structure, formation and evolution ...
- UC-69 Science Use Case instructions**
- UC-65 Evolution of 3D magnetic configuration at m...
- UC-64 FIP fractionation as tracer of solar wind sour...
- UC-63 Short-term evolution of internetwork magnet...
- UC-62 Are quiet-Sun internetwork fields turbulent? ...
- UC-61 DKIST and Solar Orbiter observations for un...
- UC-60 Coronal helium abundance from joint DKIST ...
- UC-59 Co-ordinated observations with DKIST and S...
- UC-58

24 of 82

Science Use Case instructions

Edit Comment Assign Start Progress Admin

Type: Science Use Case Assignee: Mark Rast
Status: OPEN (View workflow) Reporter: Mark Rast
Priority: Minor
Resolution: Unresolved
Labels: None

Principal Investigator: Mark Rast

Votes: 0
Watchers: 0 Start watching this issue

Created: 02/Nov/17 7:31 AM
Updated: 19/Dec/17 4:02 PM

GENERAL INFORMATION
SCIENCE JUSTIFICATION
OBSERVATION SPECIFICS
TARGET SPECIFICS INSTRUMENT SPECIFICS

PI Affiliation:
Use Case Principle Investigator is generally also the UC creator. PI can add Co-Is (via 'Additional Users to E-mail' field) and can re-assign UC to another PI. CO-I's must have CSP JIRA account (send email address DKISTCSP@nso.edu for account request).

Abstract:
Please provide a short summary of your

DKIST CSP: JIRA User's Guide

Status and Labels Fields

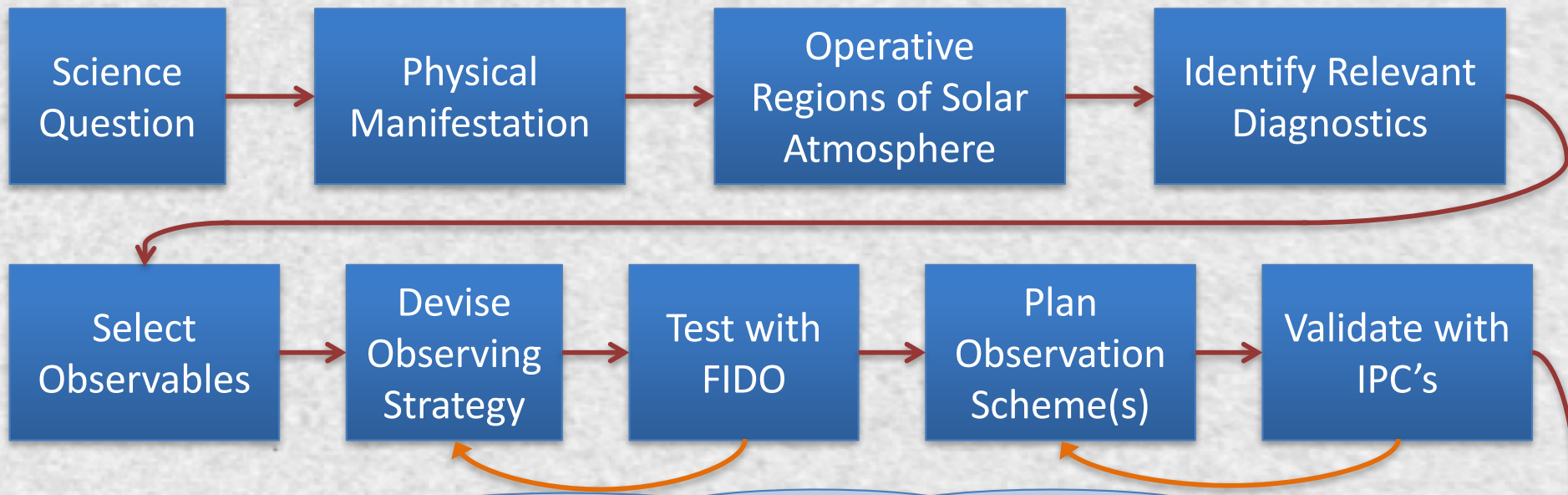
The screenshot shows the JIRA issue page for UC-89. The issue title is "Tracking the evolution of Corona Mass Eject...". The status is "OPEN" and the priority is "Minor". The "Start Progress" button is highlighted with a red arrow.

- For now please do not select *Start Progress* (which changes the *Status* field)

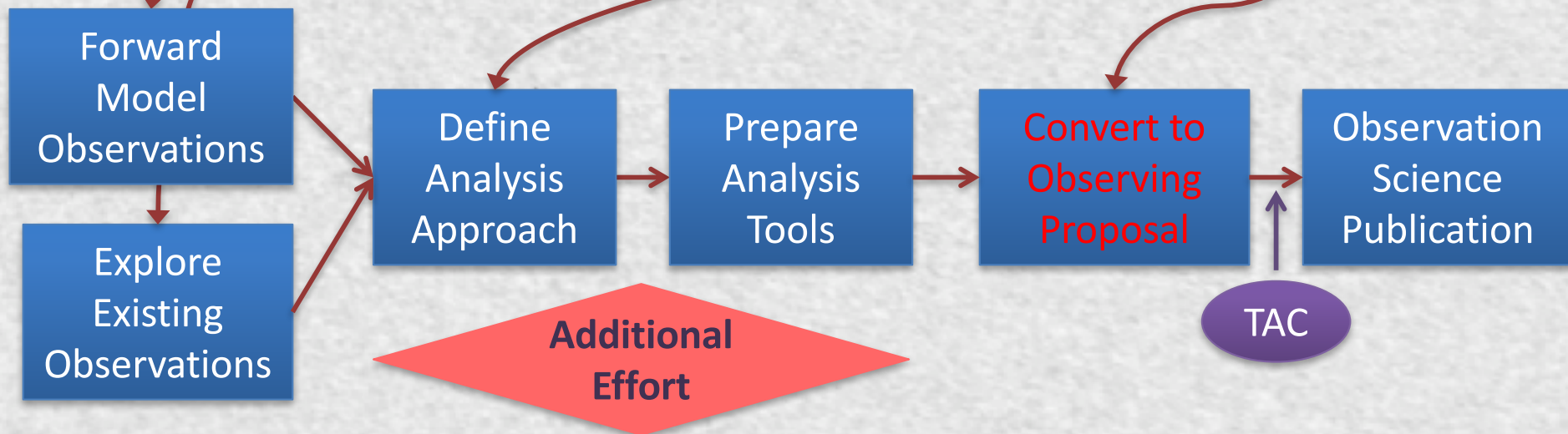
The screenshot shows the JIRA issue page for UC-61. The issue title is "DKIST and Solar Orbiter observations for understanding the creation of upflowing plasma on the Sun.". The status is "OPEN" and the priority is "Minor". The "Labels" field is highlighted with a red arrow.

- If you worked on your Science Use Case as part of a DKIST CSP Workshop, please edit *Labels* as:
 - CSPW-SPD2016
 - CSPW-Huntsville
 - **CSPW-DC**
 - CSPW-Freiburg
 - CSPW-Nagoya
 - CSPW-JHU/APL
 - CSPW-Newcastle
 - CSPW-NMSU
 - CSPW-Rice
 - CSPW-Bozeman
 - CSPW-Synopticas appropriate.

**Coordinate PI-led Science Use Case teams – review
Critical Science Plan and existing Science Use Cases**



**Coordinate PI-led Observing Proposal teams –
guidance from DKIST Science Working Group**



DKIST Science Working Group (DKIST SWG)

1	Bello-Gonzales	Nazaret	KIS	Germany	Member
2	Cao	Wenda	NJIT	US	Member
3	Cauzzi	Gianna	AO	Italy	Member
4	Cranmer	Steve	U. Colorado	US	Member
5	da Costa	Fatima Rubio	Stanford	US	Member
6	DeLuca	Ed	Harvard	US	Member
7	dePontieu	Bart	Lockheed	US	Member
8	Fletcher	Lyndsay	U. Glasgow	UK	Member
9	Gibson	Sarah	HAO	US	Member
10	Jeffries	Stuart	Georgia St	US	Member
11	Judge	Phil	HAO	US	Member
12	Katsukawa	Yukio	NAOJ	Japan	Member
13	Landi	Enrico	Michigan	US	Member
14	Petrie	Gordon	NSO	US	Member
15	Qiu	Jiong	MSU	US	Member
16	Rast	Mark	U. Colorado	US	Member
17	Rempel	Mattias	HAO	US	Member
18	Rubio	Luis Bellot	IAA	Spain	Member
19	Scullion	Eamon	TCD	Ireland	Member
20	Sun	Xudong	IfA	US	Member
21	Welsch	Brian	Wisconsin	US	Member
22	Goode	Phil	NJIT	US	Co-I
23	Knoelker	Michael	HAO	US	Co-I
24	Rosner	Robert	U. Chicago	US	Co-I
25	Kuhn	Jeff	IFA	US	Co-I & Instrument PI
26	Rimmele	Thomas	NSO	US	Ex-Officio
27	Casini	Roberto	HAO	US	Instrument PI
28	Lin	Haosheng	IFA	US	Instrument PI
29	Schmidt	Wolfgang	KIS	Germany	Instrument PI
30	Woeger	Friedrich	NSO	US	Instrument PI

- SWG will try to articulate the community vision of essential DKIST science through the Critical Science Plan
- The SWG will identify Science Use Case overlap and suggest team consolidation
- The SWG will aim to minimize, NOT adjudicate, conflicts
- The SWG will assess whether the science proposed in the Science Use Cases requires DKIST capabilities
- **DKIST Time Allocation Committee is final arbitrator, and will determine the order which the Observing Proposals are executed**

<http://dkist.nso.edu/CSP>

- Critical science description (living document) with links to Science Use Case titles and abstracts, and ultimately their full text
- Links to Instrument and other summary documents
- Link beam-splitter configuration and data rate analysis tool

<http://nso-atst.atlassian.net/>

Collaborative JIRA environment for Science Use Case development, and ultimately Observing Proposal development

<https://www.dropbox.com/sh/uzwdc03ayovxr5o/AABuZbWtCnfPqG8F2zHaeCFta?dl=0>

Dropbox link with summary documents (Instruments, Data Handling System (DHS), Facility Instrument Distribution Optics (FIDO), JIRA User's guide), and Instrument Performance Calculators (IPCs)