DKIST CSP Workshop
Boulder, CO
9 October 2018

DKIST Critical Science Plan Workshop #9: Long-Term Studies of the Sun

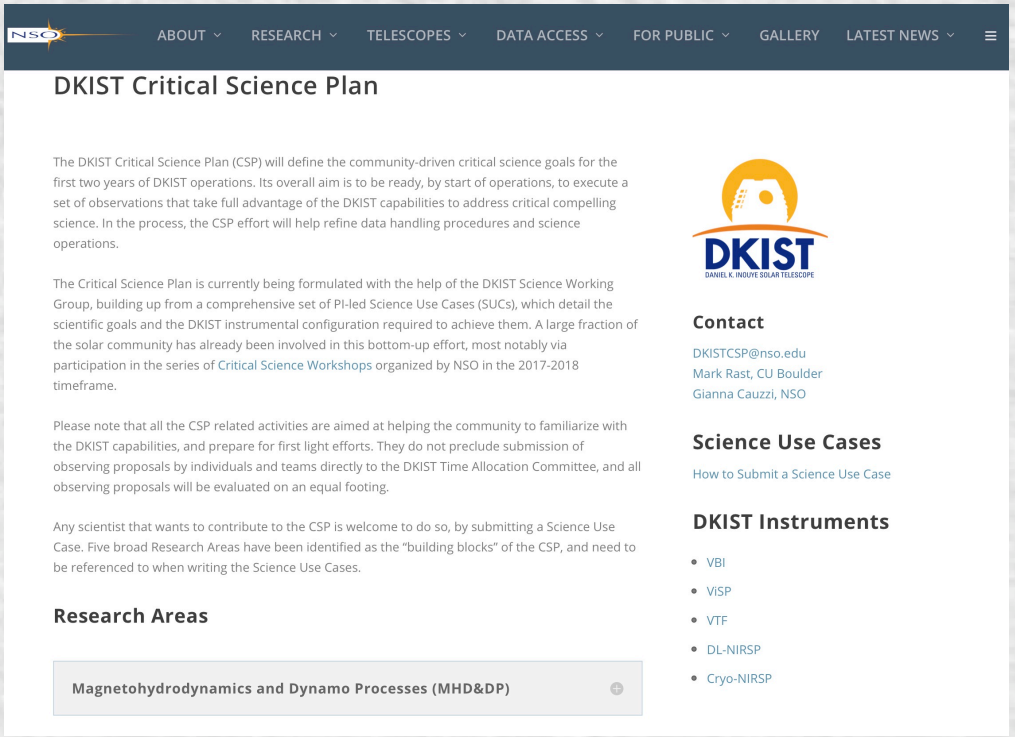
Introduction to the Critical Science Plan / Life cycle of a Science Use Case

DKIST Critical Science Plan (CSP)

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

Bottom-up approach, community based. Workshops one of the tools, but NOT exclusive

https://www.nso.edu/telescopes/dkist/csp/



Critical Science Plan Structure:

- Research Areas
- Research Topics
- Science Use Cases

DKIST Critical Science Plan (CSP)

As a community we must:

- understand forthcoming capabilities
- define science goals
- compile Science Use Cases

- complete 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

At this workshop:

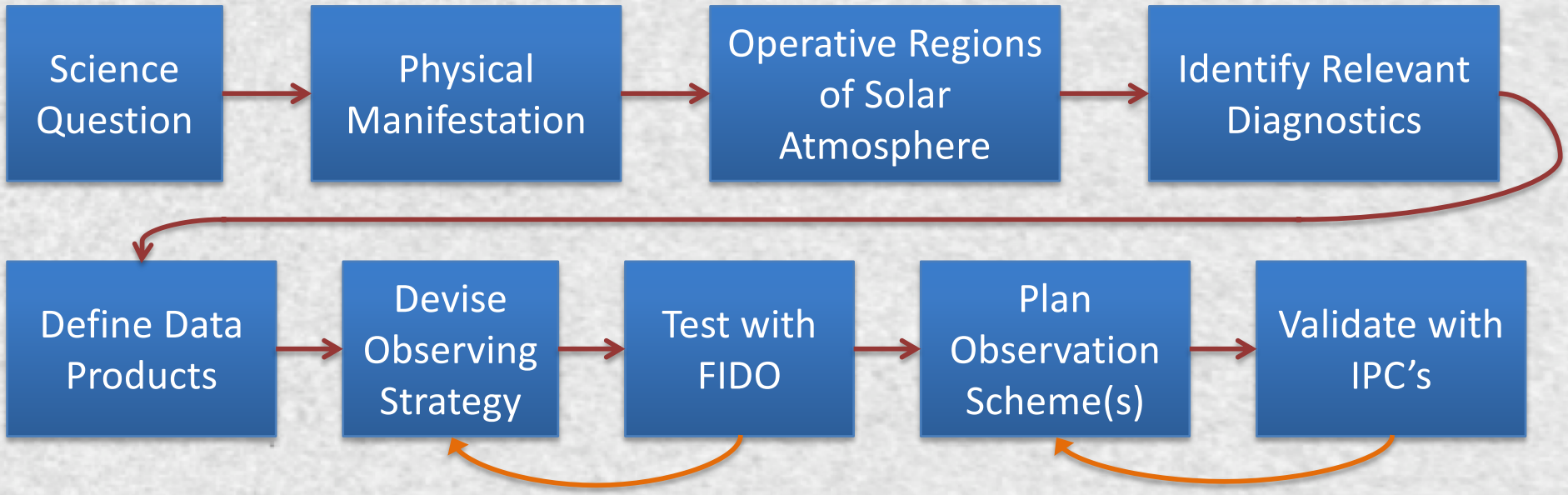
Develop a set of well defined, complementary Science Use Cases, detailing the topics to be investigated, the reasons why DKIST is necessary, and the type of DKIST observations necessary to address the science.

1. Formulate science context and goals; specify *why* DKIST

2. Identify observational needs (spectral lines of interest, pattern, cadence, sensitivities)

3. Determine useful DKIST instrument suite

4. Assess instrument performance capabilities



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

Collaborative JIRA environment for Science Use Case development

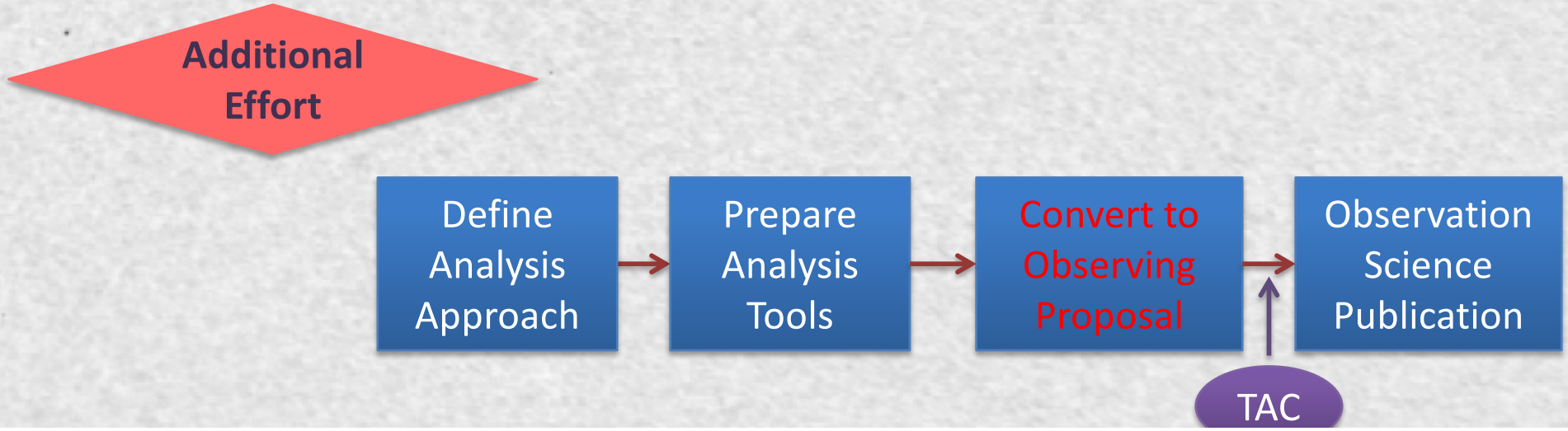
If you do not yet have an account, email an account request to:

DKISTCSP@nso.edu

Science Use Cases provide feedback to DKIST. The existing (and future) Science Use Cases will inform the project about:

- Science most relevant to the community;
- Instruments, lines, modes of operation most requested (desired?) by the community;
- Allow definition of efficient operation, data management

After this workshop: Conversion of Science Use Case to Observing Proposal



Role of the DKIST Science Working Group (DKIST SWG)

DKIST Science Working Group

Count	Last Name	First Name	Affiliation	Country	Status	Start of term
1	Bello-Gonzales	Nazaret	KIS	Germany	Member	2014
2	Cao	Wenda	NJIT	US	Member	2013
3	Cauzzi	Gianna	AO	Italy	Member	2005
4	DeLuca	Ed	Harvard	US	Member	2017
5	dePontieu	Bart	Lockheed	US	Member	2015
6	Fletcher	Lyndsay	U. Glasgow	UK	Member	2002
7	Gibson	Sarah	HAO	US	Member	2017
8	Judge	Phil	HAO	US	Member	2003
9	Katsukawa	Yukio	NAOJ	Japan	Member	2014
10	Kazachenko	Maria	CU	US	Member	2018
11	Khomenko	Elena	IAC	Spain	Member	2018
12	Landi	Enrico	Michigan	US	Member	2017
13	Petrie	Gordon	NSO	US	Member	2017
14	Qiu	Jiong	MSU	US	Member	2011
15	Rast	Mark	U. Colorado	US	Member	2013
16	Rempel	Mattias	HAO	US	Member	2015
17	Rubio	Luis Bellot	IAA	Spain	Member	2002
18	Scullion	Eamon	Northumbria	UK	Member	2014
19	Sun	Xudong	IfA	US	Member	2017
20	Welsch	Brian	Wisconsin	US	Member	2017
21	Goode	Phil	NJIT	US	Co-I	
22	Knoelker	Michael	HAO	US	Co-I	
23	Rosner	Robert	U. Chicago	US	Co-I	
24	Kuhn	Jeff	IFA	US	Co-I & Instrument PI	
25	Rimmele	Thomas	NSO	US	Ex-Officio	
26	Casini	Roberto	HAO	US	Instrument PI	
27	Lin	Haosheng	IFA	US	Instrument PI	
28	Schmidt	Wolfgang	KIS	Germany	Instrument PI	
29	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 examine whether the science proposed in the Science Use Cases requires DKIST capabilities, and give feedback to PIs
- The SWG will aim to minimize, NOT adjudicate, conflicts
- DKIST Time Allocation Committee is final arbitrator, and will determine the order by which the Observing Proposals are executed

Important Points:

1. This process is 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 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 DKIST project beyond science definition – it helps in the development of essential operations and data management tools

https://www.nso.edu/telescopes/dkist/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
- Links to beam-splitter configuration and data rate analysis tool (FIDO)

NOTE: Links to ALL documents, FIDO tool, and IPCS can be found at https://www.nso.edu/telescopes/dkist/csp/docs/

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)