

HSC-SSP の教訓

Masayuki Tanaka
(National Astronomical Observatory of Japan)

HSC-SSP のおさらいと現状

<http://hsc.mtk.nao.ac.jp/>

すばる戦略枠プログラム

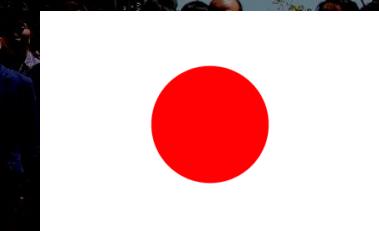
- All Japan, Princeton 大学、台湾の国際共同研究
- すばる300晩
- 2014年3月サーベイ開始(約50%終了)
- mid-term review は無事にパス

SSP proposal

Wide-field imaging with Hyper Suprime-Cam:
Cosmology and Galaxy Evolution
A Strategic Survey Proposal for the Subaru Telescope

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Co-PI: Ikuru Iwata (NAOJ)

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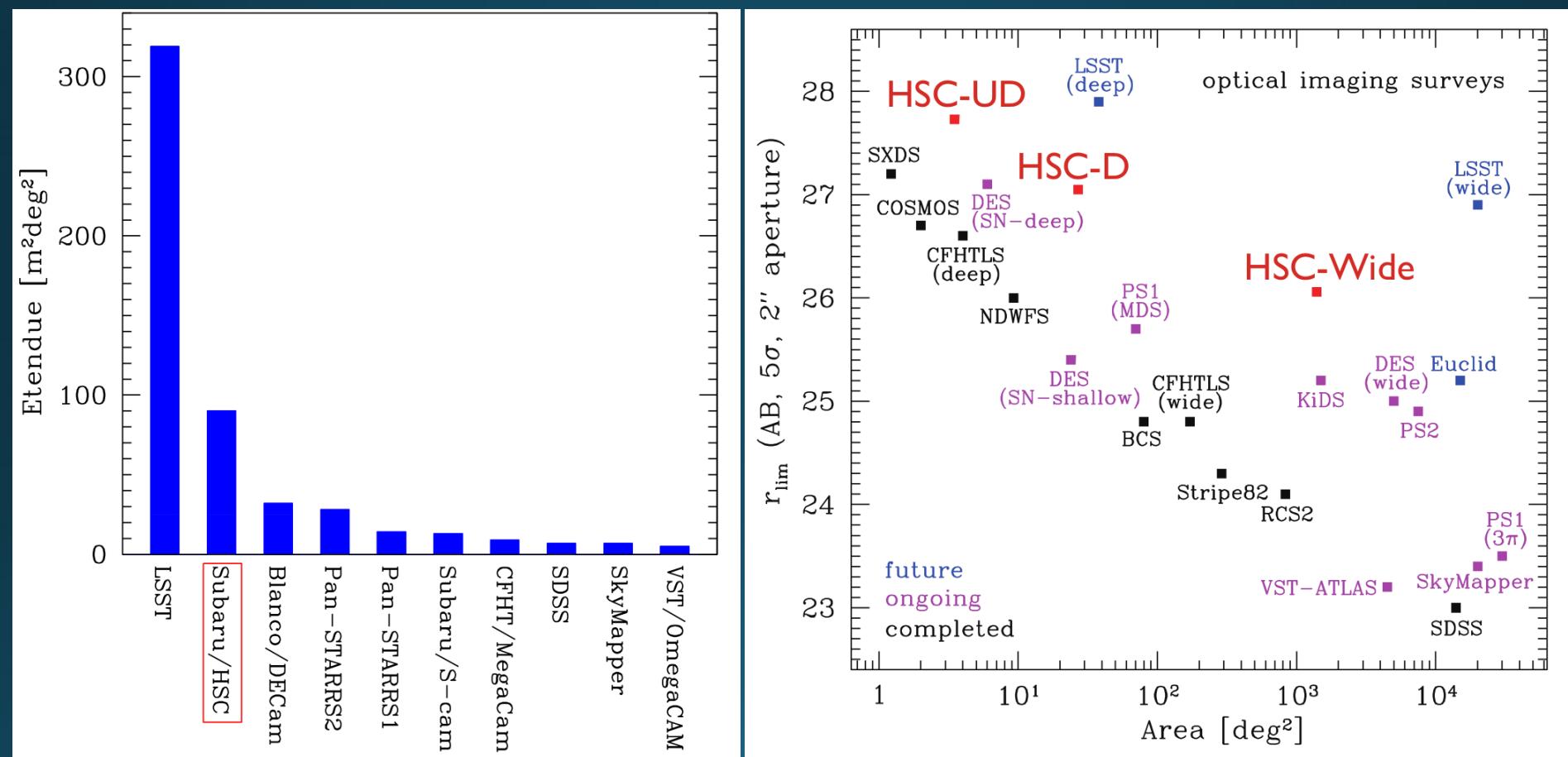


boration meeting at IPMU in August



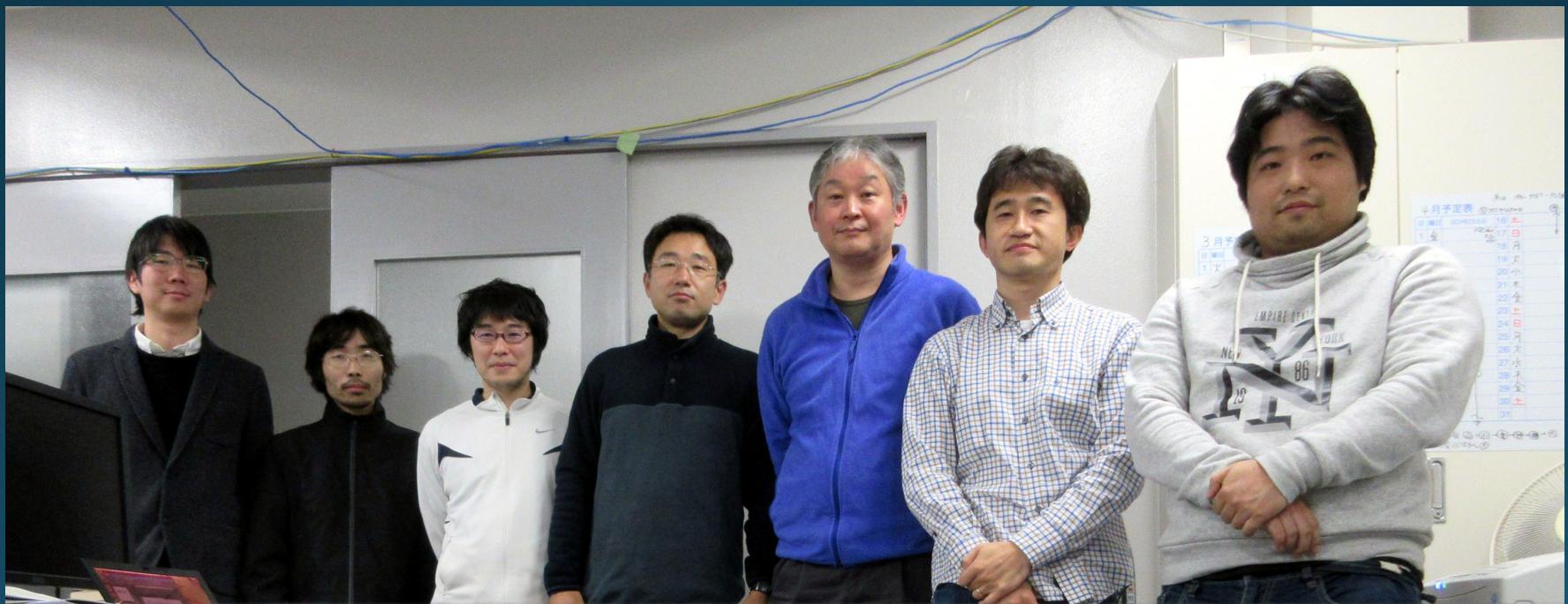
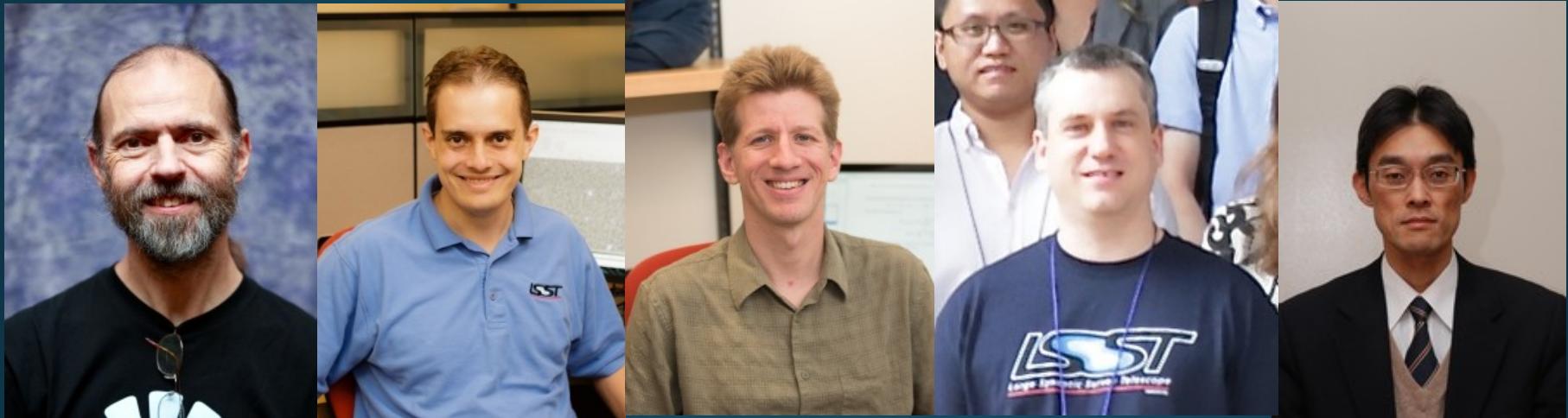
Group photo from the HSC collaboration meeting at Tohoku Univ. in May

Survey power

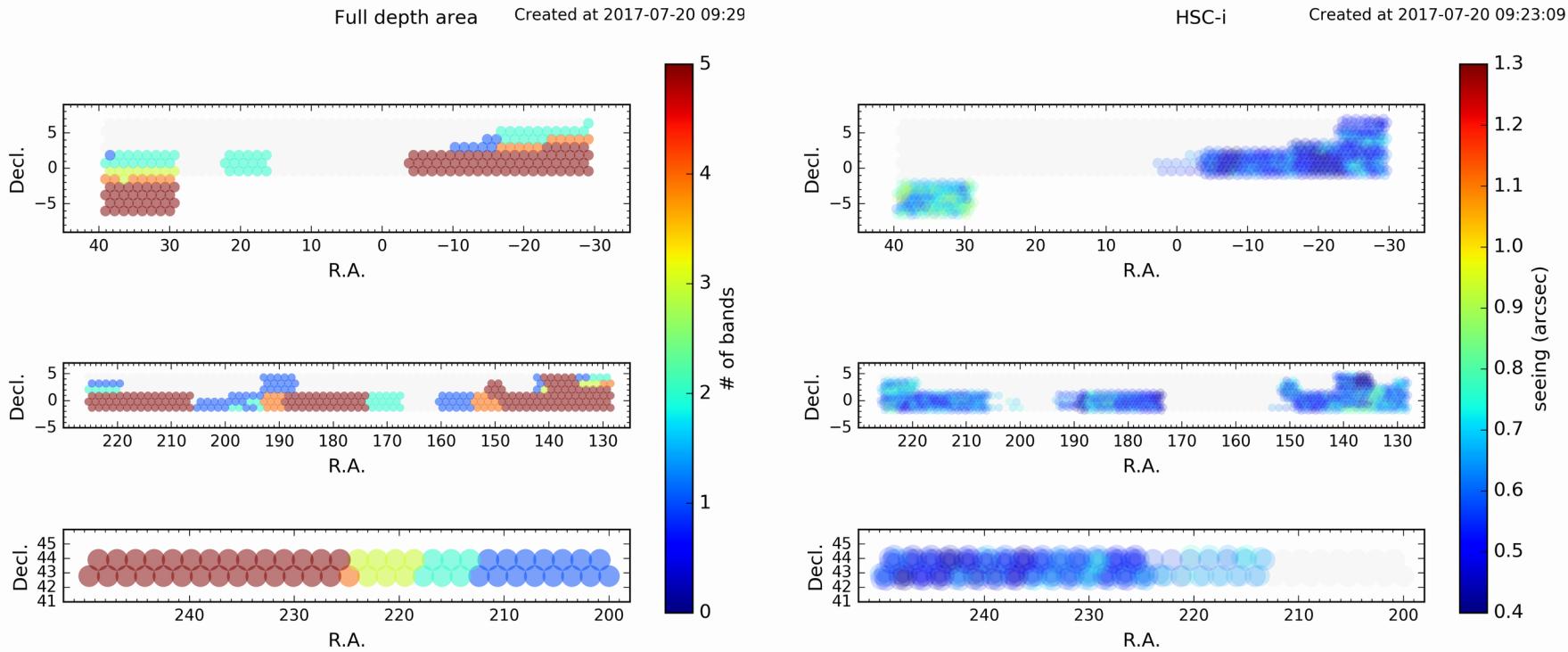


Weak-lensing cosmology, cosmic reionization, and galaxy evolution over cosmic time, and more.

Processing pipeline

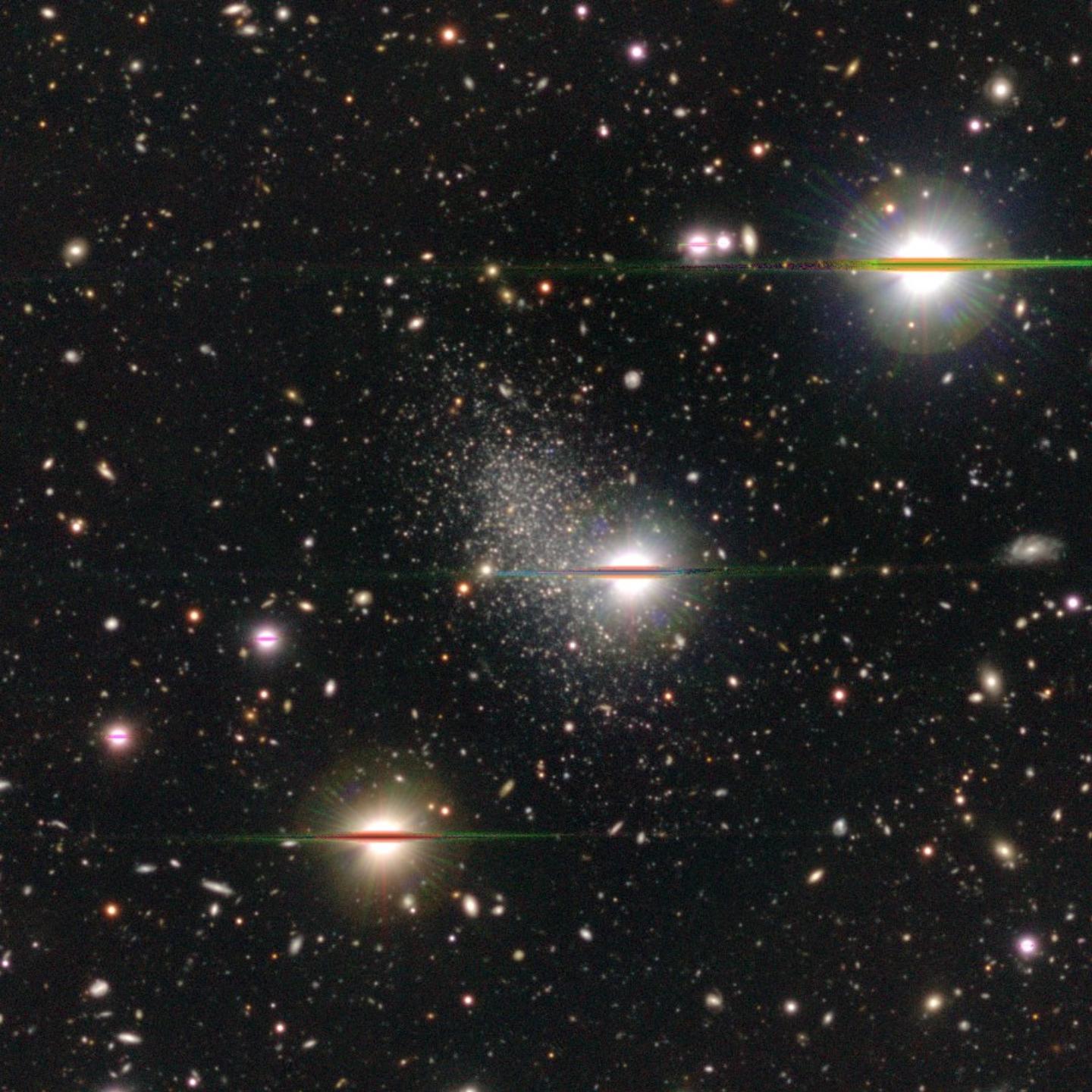


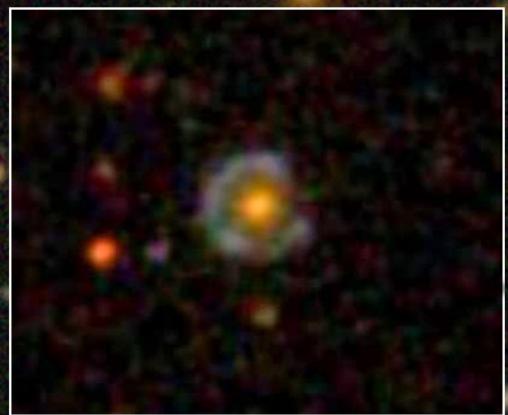
Survey progress



~300 square degrees surveyed so far. Note the excellent seeing!

Figure courtesy: Yasuda-san.





HSCの現状および国際協力の意義とその成功の秘訣

ビックサイエンスを、いい装置で、タイムリーにする。
気絶するほど面白いプロジェクトが望ましい。

今のところ成功したと思える部分

Hyper Suprime-Cam Subaru Strategic Program

Data Release 1

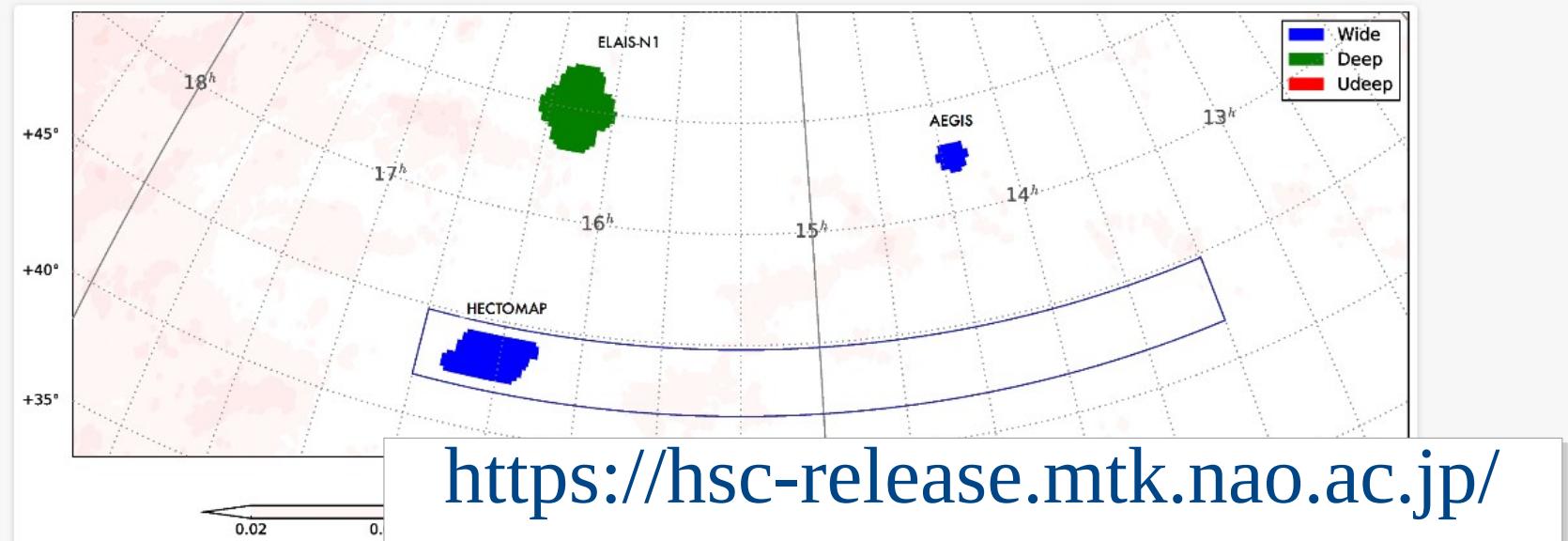
Home Survey Processing Release Data Database Data Access FAQ

We peer deep into the Universe to unveil the nature of dark matter and dark energy.

Public Data Release 1

Welcome to the [Hyper Suprime-Cam](#) Subaru Strategic Program Data Release Site!

The first public release of HSC-SSP occurred on 28 February 2017. The release includes over 100 square degrees of deep multi-color data served through dedicated databases and user interfaces. The figures below shows the area covered in this release and the table gives an overview of the data in the three survey layers. Refer to [our survey website](#) for details of the survey design.



<https://hsc-release.mtk.nao.ac.jp/>

Hyper Suprime-Cam Subaru Strategic Program

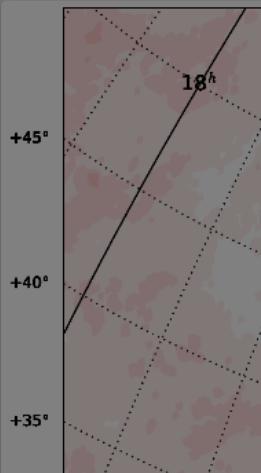
Data Release 1

Home Survey Processing

We peer deep into the

Public Data

Welcome to the [Hyper Suprime-Cam](#). The first public release of data is now available. It is served through dedicated servers and can be accessed via the links below. An overview of the data in the



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First Data Release of the Hyper Suprime-Cam Subaru Strategic Program

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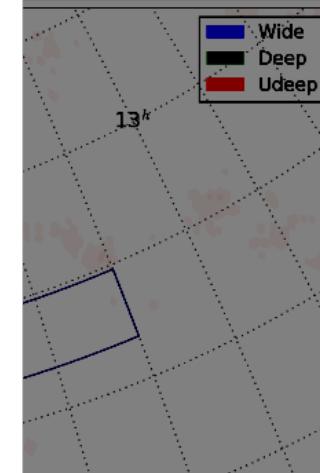
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of deep multi-color data
and the table gives an



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Data Release paper with 110 authors!

Hyper Suprime-Cam Subaru Strategic Program

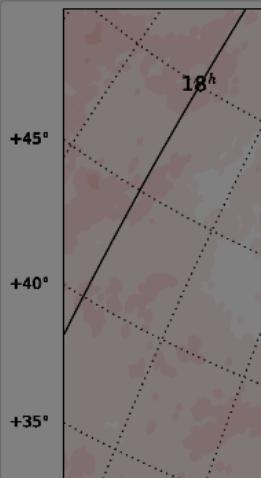
Data Release 1

Home Survey Processing

We peer deep into the

Public Data

Welcome to the [Hyper Suprime-Cam](#). The first public release of data is now available. The data is served through dedicated services and can be explored via the survey interface. An overview of the data in the survey is provided in the following sections.



arXiv:1706.00566v1 [astro-ph.GA] 2 Jun 2017

Deep Optical Imaging of the COSMOS Field with Hyper Suprime-Cam Using Data from the Subaru Strategic Program and the University of Hawaii

Masayuki Tanaka¹, Günther Hasinger², John D. Silverman³, Steven Bickerton⁴, Hisanori Furusawa¹, Yuichi Harikane^{5,6}, Esther Hu², Hiroyuki Ikeda¹, Yanxia Li², Henry J. McCracken⁷, Paul A. Price⁸, Michael A. Strauss⁸, Michitaro Koike¹, Yutaka Komiyama^{1,9}, Sogo Mineo¹, Satoshi Miyazaki^{1,9}, Atsushi J. Nishizawa¹⁰, Tadafumi Takata^{1,9}, Yousuke Utsumi¹¹, Yoshihiko Yamada¹, Naoki Yasuda³

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Received ; Accepted

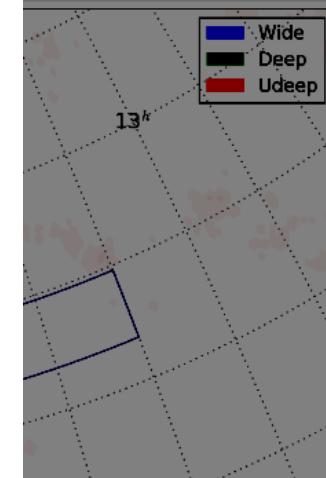
Abstract

We present the deepest optical images of the COSMOS field based on a joint dataset taken with Hyper Suprime-Cam (HSC) by the HSC Subaru Strategic Program (SSP) team and the University of Hawaii (UH). The COSMOS field is one of the key extragalactic fields with a wealth of deep, multi-wavelength data. However, the current optical data are not sufficiently deep to match with, e.g., the UltraVista data in the near-infrared. The SSP team and UH have joined forces to produce very deep optical images of the COSMOS field by combining data from both teams. The coadd images reach depths of $g = 27.8$, $r = 27.7$, $i = 27.6$, $z = 26.8$, and $y = 26.2$ mag at 5σ for point sources based on flux uncertainties quoted by the pipeline and they cover essentially the entire COSMOS 2 square degree field. The seeing is between 0.6 and 0.9 arcsec on the coadds. We perform several quality checks and confirm that the data are of science quality; $\sim 2\%$ photometry and 30 mas astrometry. This accuracy is identical to

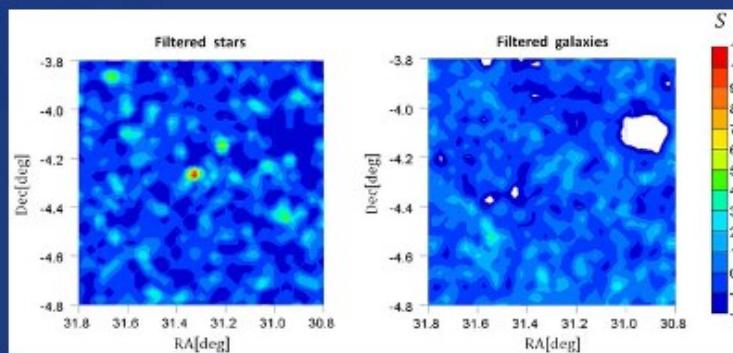
© 2017 First incremental data release!

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doi: 10.1093/pasj/xxx000

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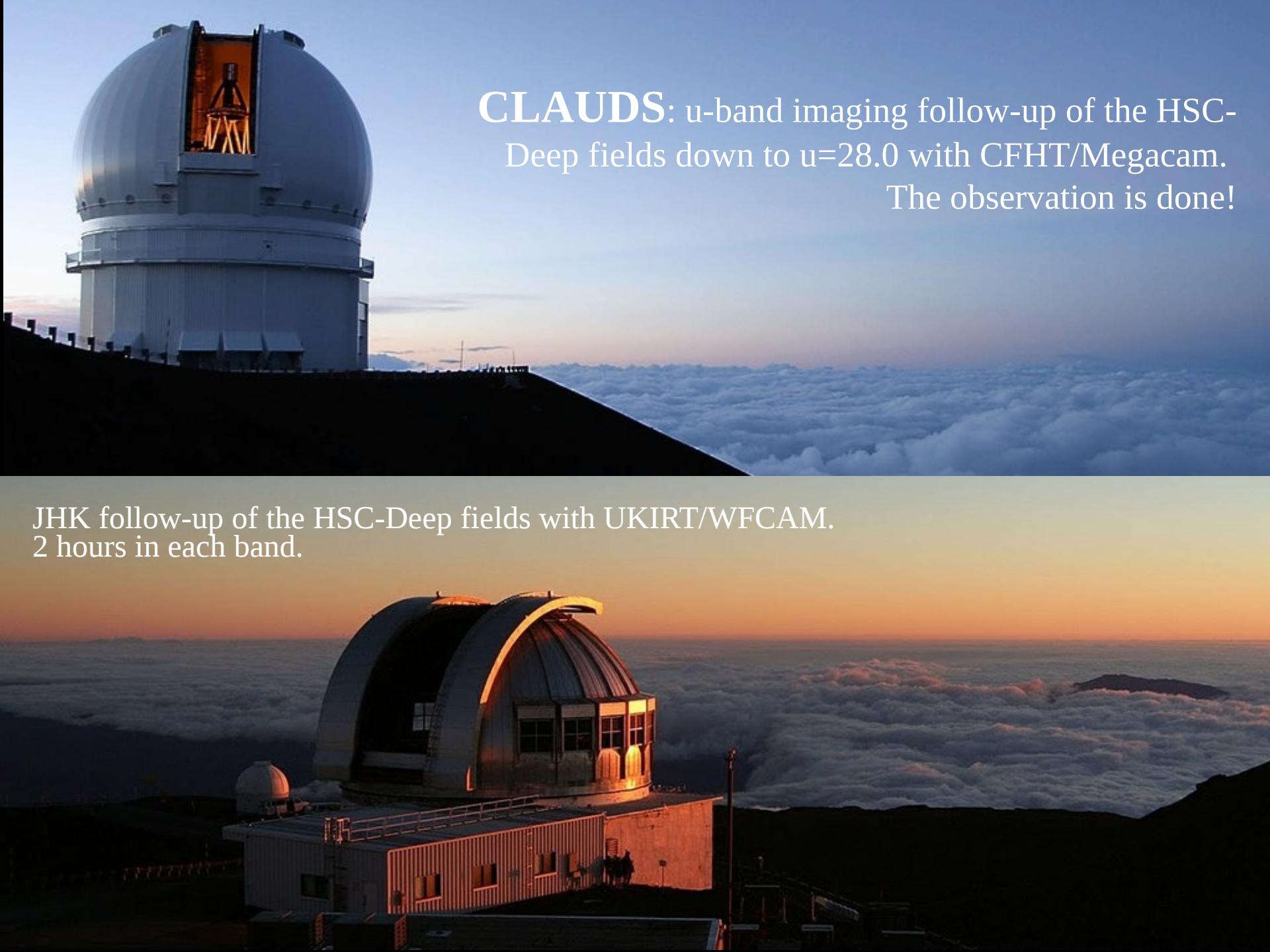


Publications of the Astronomical Society of Japan



HSC-SSP Special Issue

2017



CLAUDS: u-band imaging follow-up of the HSC-
Deep fields down to $u=28.0$ with CFHT/Megacam.
The observation is done!

JHK follow-up of the HSC-Deep fields with UKIRT/WFCAM.
2 hours in each band.

教訓 (田中の私見です)

人間関係は決してこじらせないこと

日本人は英語が苦手であるが、きちんとコミュニケーションを取って、相手に信頼してもらうことが必須。信頼は失うのは簡単だが、得るのは非常に大変。でも頑張らないといけない。

常に文化の違いは存在するので、たまにむつと思っても、決してケンカはしない。特に実務レベルでは注意。責任の在り処は明確に。

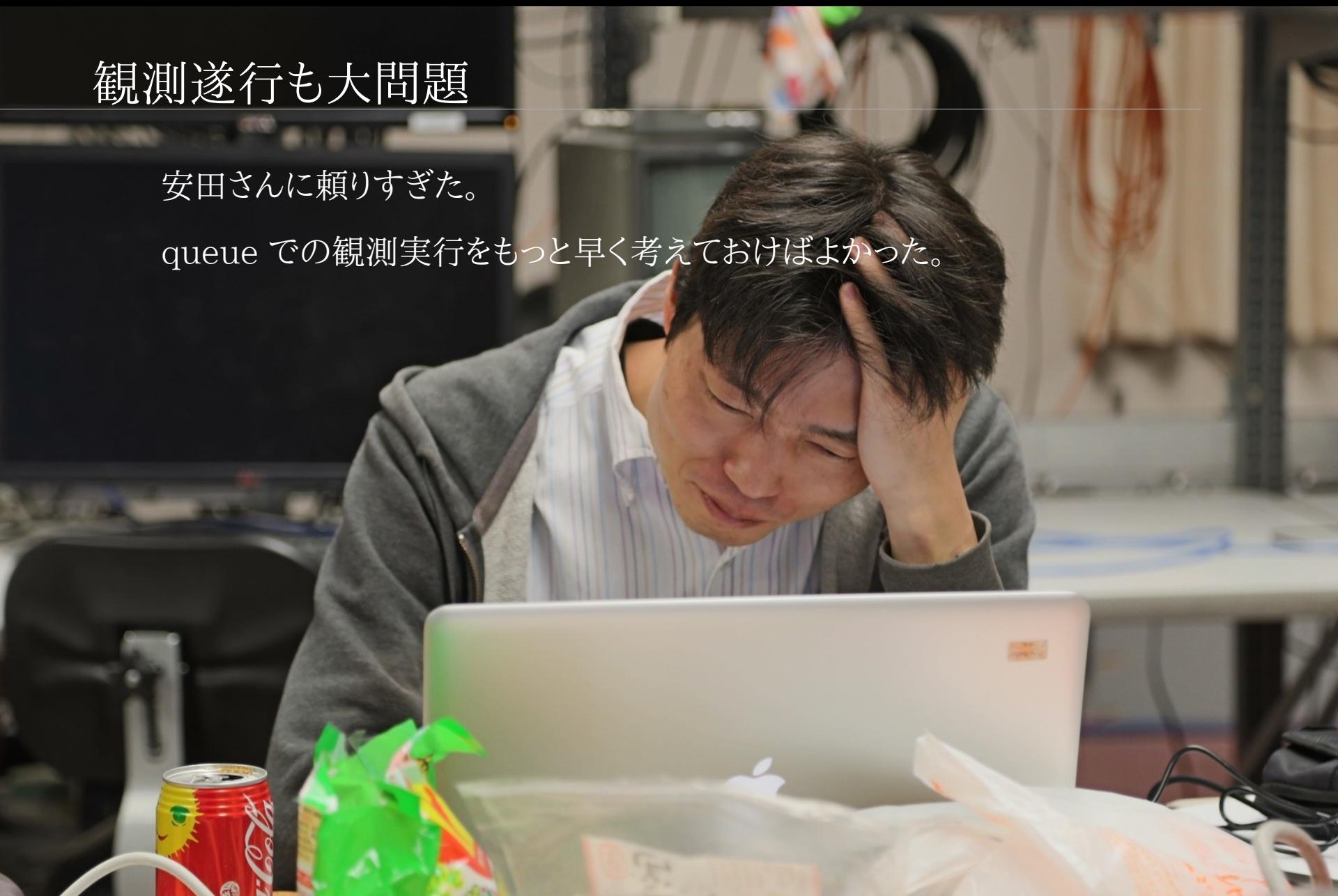
Software は極めて重要

天文学はいわゆるビッグデータを使ったサイエンス。数百Tbytesのデータはなめてはいけません。今までのすばるの装置のパイプラインを思い出してみましょう…。

観測遂行も大問題

安田さんに頼りすぎた。

queue での観測実行をもっと早く考えておけばよかった。



‘Open’ collaboration

HSC は ‘Open’ collaboration。個人・研究室単位の研究のやり方と違うが、今の所大きな問題は起こっていない。
しかし、まだサーベイ研究が研究者に染み渡っていない
ようにも思う。

website はちゃんと作る

最近の人はまっさきにweb検索する。そこで引っかからないと世界に認知されない。

まとめ



- ビックサイエンスを、いい装置で、タイムリーにする
- 人間関係は決してこじらせないこと
- Software を軽んじるなれ