Purpose of this Workshop

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Why are we here?

Segal's Law: "A man with a watch always knows what time it is. A man with two watches is never sure."

- We live in a new era of solar EUV spectral irradiance. We now have multiple instruments measuring the solar EUV.
- We are here to compare our results and to understand our differences.
- We are here to plot a course to determining the "truth" of solar EUV irradiances.

Why are **we** here?

- The absolute values and variabilities of EUV spectral irradiances are important to many branches of science (e.g. aeronomy, solar physics) and space weather operations.
- **We** are the people who build the instruments, make the measurements, and convert the measurements into irradiances.
- The rest of the world looks to **us** to provide them with the solar EUV irradiances they need. It's up to us to give them the best product possible.

Realistic Expectations

- **Don't expect an answer.** There are too many issues to resolve in one short meeting. This workshop is just a step in (hopefully) the right direction.
- **Do expect to air your dirty laundry.** The only way we'll get to the heart of understanding solar EUV is through open cooperation and sharing of information. Leave your ego at home. We have no secrets and there is no individual prize, only an advance for science.

We're Not Here to Fight

We're Not Here to Conquer

We're Here to Advance Science

Irradiance Measurement Essentials

- **Understand the Measurement Equation:**
  - Know all the parameters that go into the measurement to irradiance conversion and assess how to best quantify each
  - Do a thorough error analysis and budget
- **Calibrate pre-flight:**
  - Use a standard radiometric source
  - Primary standards, such as synchrotrons (e.g. NIST SURF-III) are preferred
- **Track in-flight:**
  - Any instrument changes that will affect results
  - E.g. detector flat fields, gain changes, temperature effects, background signals, …
- **Re-Calibrate in-flight:**
  - As close after launch as possible (changes since pre-flight calib.)
  - On a regular basis thereafter in order to track absolute changes
  - E.g. redundant channels, on-board sources, rocket underflights, proxy models
- **Validate:**
  - With measurements made with other instrumentation
  - Comparisons with models

Calibration is a lifetime commitment

Tuesday, October 25, Morning

Tues., Oct. 25 ***LASP, Room A200***

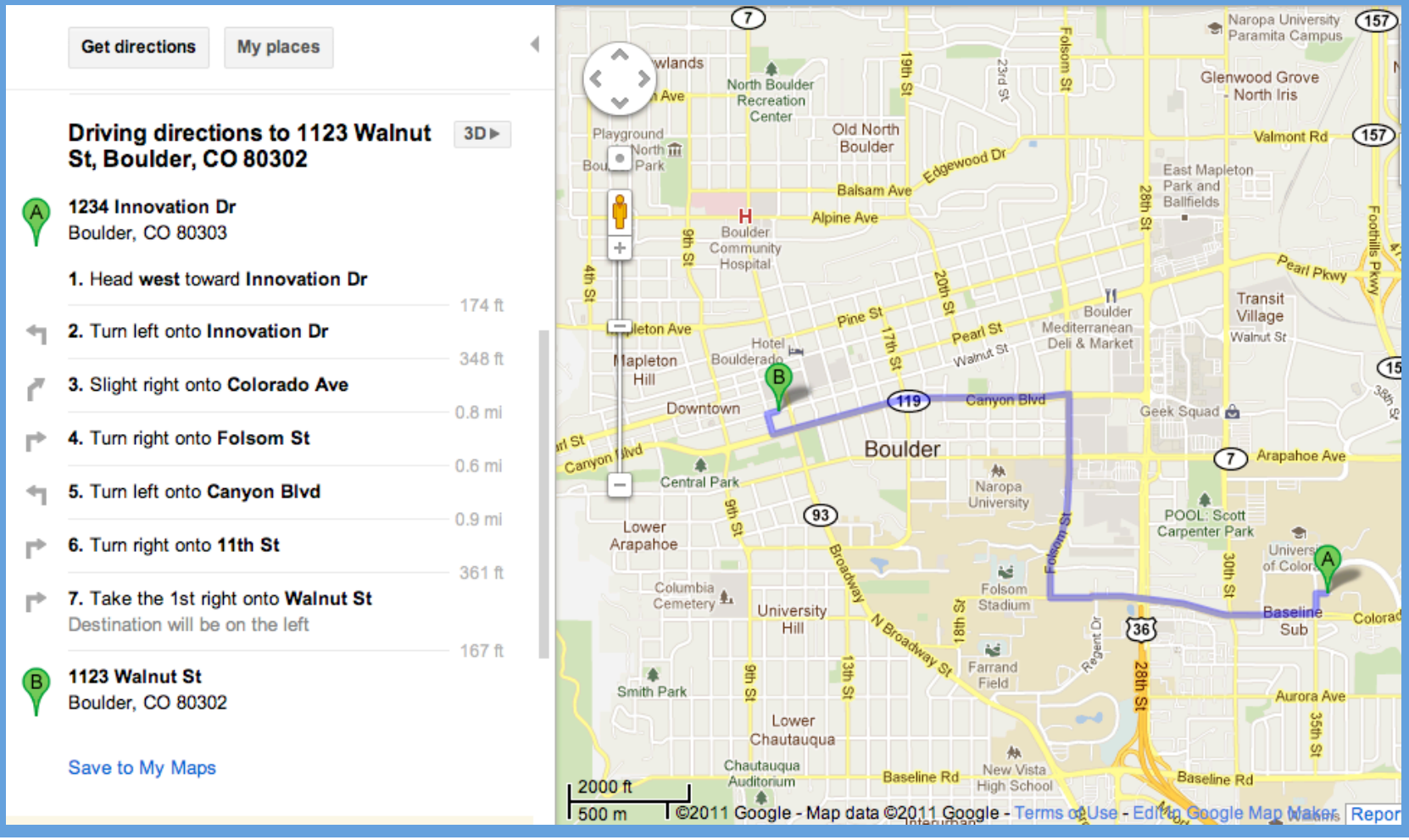
8:00 - 8:30 a.m.	Continental Breakfast (provided at LASP)	
Session 1:		
8:30 - 8:00 a.m.	Welcome & Introductions	*Andrew Jones*
9:00 - 9:30 a.m.	Workshop Purpose	*Frank Eparvier*
9:30 - 10:15 a.m.	**Keynote:** *TSI Comparisons - Lessons Learned*	*Greg Kopp*
10:15 - 10:45 a.m.	Break	
10:45 - 11:15 a.m.	Comparisons - The Devil is in the Details	*Frank Eparvier*
Session 2:		
11:15 - 11:25 a.m.	Instrument Overview	*Andrew Jones*
	Photometers	
11:25-11:45 a.m.	SEE and SORCE XPS	*Tom Woods*
11:45 - 12:05 p.m.	LYRA	*Dominique or Dammasch*
12:05 - 12:15 p.m.	Discussion	
12:15 - 1:00 p.m.	Lunch (provided at LASP)	

Tuesday, October 25, Afternoon

	General Talks: *Why it Matters*	
1:00 - 1:20 p.m.	Solar Physics	*Rachel Hock*
1:20 - 1:40 p.m.	Interplanetary	*Bochsler or Moebius*
1:40 - 1:50 p.m.	Discussion	
	Spectrophotometers	
1:50 - 2:05 p.m.	SoHO-SEM	*Seth Wieman*
2:05 - 2:20 p.m.	SDO-EVE-ESP	*Leonid Didkovsky*
2:20 - 2:40 p.m.	GOES-NOP-EUV	*Jones w/contr. from McMullin*
2:40 - 2:50 p.m.	Discussion	
2:50 - 3:20 p.m.	Break	
	Spectrometers & Spectrographs	
3:20 - 3:40 p.m.	TIMED-SEE-EGS	*Frank Eparvier*
3:40 - 4:00 p.m.	SDO-EVE-MEGS	*Tom Woods*
4:00 - 4:20 p.m.	SOLACES	*Raimund Brunner*
4:20 - 4:35 p.m.	SoHO-CDS	*Slides presented by Jones*
4:35 - 4:45 p.m.	Discussion	
4:45 - 5:00 p.m.	Day 1 Wrap-up and Homework Assignments	

Tuesday Night Group Dinner

- Reservations have been made for 6:30 pm Tuesday, October 25th at the **Walnut Brewery** at 1123 Walnut Street in Boulder (one block south of the Pearl Street Mall downtown). Reservation is under the name “Solar”. There is a parking ramp right across the street from the restaurant.



Wednesday, October 26, Morning

Wed., Oct. 26	***LASP, Room A200***	
8:00 - 8:30 a.m.	Continental Breakfast (provided at LASP)	
	General Talks: *Calibration Facilities*	
8:30 - 8:50 a.m.	NIST	*Uwe Arp*
8:50 - 9:10 a.m.	NSLS	*Jim Bremer*
Session 3:	**Instrument Calibrations**	
9:10 - 9:30 a.m.	SEE & SORCE XPS	*Tom Woods*
9:30 - 9:50 a.m.	LYRA	*Dominique or Dammasch*
9:50 - 10:10 a.m.	SoHO SEM	*Seth Wieman*
10:10 - 10:30 a.m.	SDO-EVE-ESP	*Leonid Didkovsky*
10:30 - 10:50	Break	
10:50 - 11:10 a.m.	GOES-NOP-EUV	*Jones w/ contr. from McMullin*
11:10 - 11:30 a.m.	TIMED-SEE-EGS	*Frank Eparvier*
11:30 - 11:50 a.m.	SDO-EVE-MEGS	*Tom Woods*
11:50 - 12:10 p.m.	SOLACES	*Bernd Nikutowski*
12:10 - 12:30 p.m.	CDS	*Slides presented by A. Jones*
12:30 - 1:15 p.m.	Lunch (provided at LASP)	

Wednesday, October 26, Afternoon

1:15 - 1:45 p.m.	**Tour of LASP**	
Session 4:	**Data Comparison Splinters**	
1:45 - 2:00 p.m.	Assignments	
2:00 - 5:00 p.m.	Splinter Groups	*LSTB Room 151 (1:30 pm)* *LSTB Room 247 (1 pm)*
	Working Dinner (if necessary/desired we'll order in)	

Thursday, October 27, Morning

Thur., Oct. 27	***LASP, Room A200***	
8:00 - 8:30 a.m.	Continental Breakfast (provided at LASP)	
	General Talks: *Empirical Models*	
8:30 - 8:50 a.m.	FISM and the TIMED-SEE Record	*Phil Chamberlin*
8:50 - 9:10 a.m.	Discussion	
9:10 - 10:20 a.m.	Splinter Group Reports	
10:20 - 10:50 a.m.	Break	
	Discussion -- What next? Future plans?	
10:50 - 12:00 noon	ISSI Proposal?	
12:00 - 12:15 p.m.	Workshop Wrap-up / Summary	
12:15 - 1:00 p.m.	Lunch -- Box lunches provided (to go or stay)	***Move to DIDR W218***
1:00 - 5:00 p.m.	Continued discussion for those staying	*DIDR W218*