



TOTEM-PPS TEST BEAM FOR 2019

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On behalf of TOTEM, HIP/UH
Helsinki Group

OUTLINE

1. TEST BEAM SCHEDULE for 2019 at DESY
2. SUMMARY

TEST BEAM SCHEDULE for 2019 at DESY



DESY Test Beam Schedule 2019 - Version 0 12/10/2018 DRAFT



Ralf Diener, Norbert Meyners, Marcel Stanitzki - DESY Test Beam Coordinators

Week	TB21		TB22		TB24/1		TB24	
	DATA	DURANTA	DURANTA	PCMAG	TELESCOPE	PCMAG	TELESCOPE	AZALEA
7-Jan-19								
14-Jan-19								
21-Jan-19								
28-Jan-19								
4-Feb-19								
11-Feb-19								
18-Feb-19								
25-Feb-19								
4-Mar-19								
11-Mar-19								
18-Mar-19								
25-Mar-19								
1-Apr-19								
8-Apr-19								
15-Apr-19								
22-Apr-19								
29-Apr-19								
6-May-19								
13-May-19								
20-May-19								
27-May-19								
3-Jun-19								
10-Jun-19								
17-Jun-19								
24-Jun-19								
1-Jul-19								
8-Jul-19								
15-Jul-19								
22-Jul-19								
29-Jul-19								
5-Aug-19								
12-Aug-19								
19-Aug-19								
26-Aug-19								
2-Sep-19								
9-Sep-19								
16-Sep-19								
23-Sep-19								
30-Sep-19								
7-Oct-19								
14-Oct-19								
21-Oct-19								
28-Oct-19								
4-Nov-19								
11-Nov-19								
18-Nov-19								
25-Nov-19								
2-Dec-19								
9-Dec-19								
16-Dec-19								
23-Dec-19								
30-Dec-19								

Requested:

- Beginning of May
- Beginning of October

Granted:

- Week: 19
- Days: 06 - 13.05
- Campaign: TB24
- Telescope: AZALEA

TEST BEAM SCHEDULE for 2019 at DESY (Cont.)

Pixel detectors
a Clone of DESY tracker

Major plus:

- Spatial resolution $\sim 2 \mu\text{m}$
- DAQ and Tracking reconstruction exists
- Hardware available
- Plenty of support from DESY (Hendrick and Jan et al.)

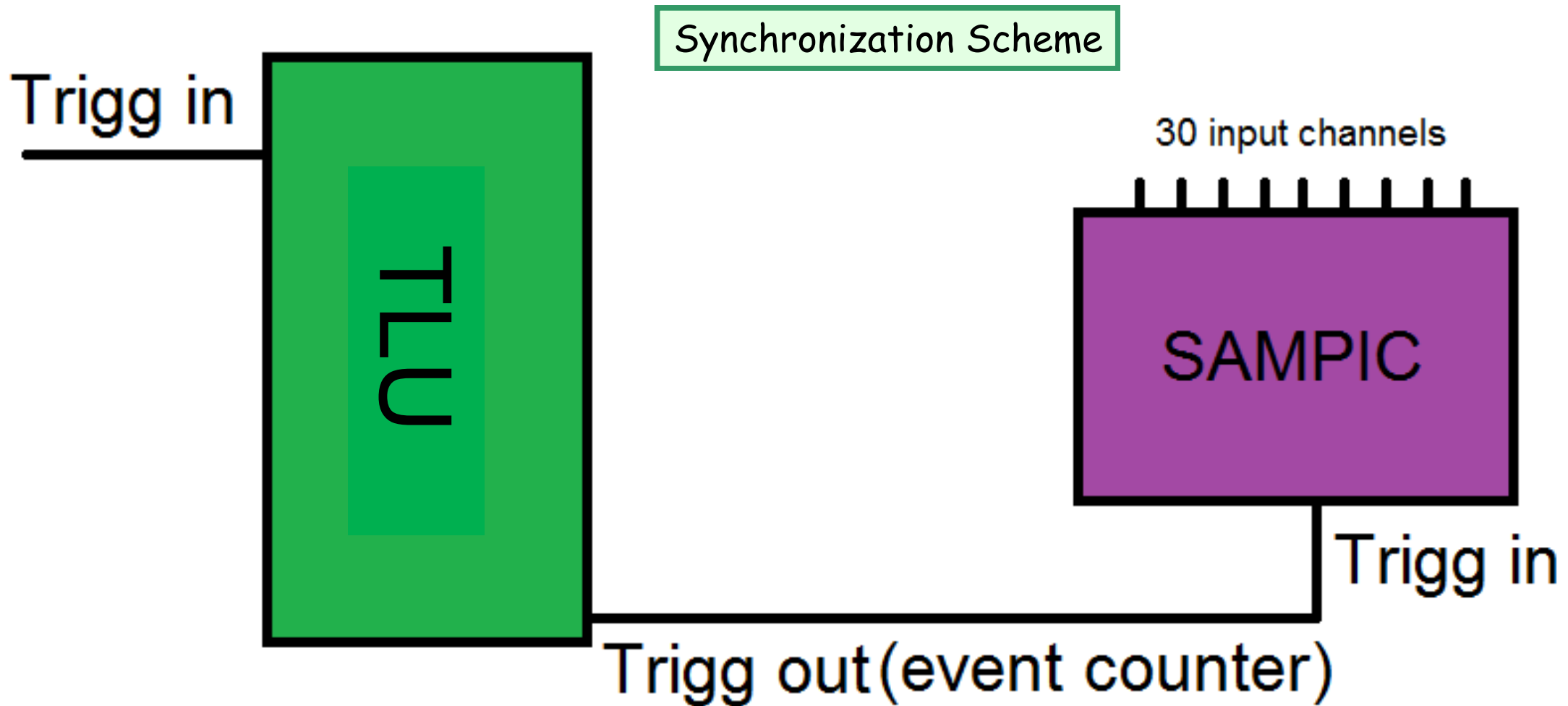
Major Minus:

- 2 cm x 1 cm Area coverage
- Easy to transport
- Moderate cost



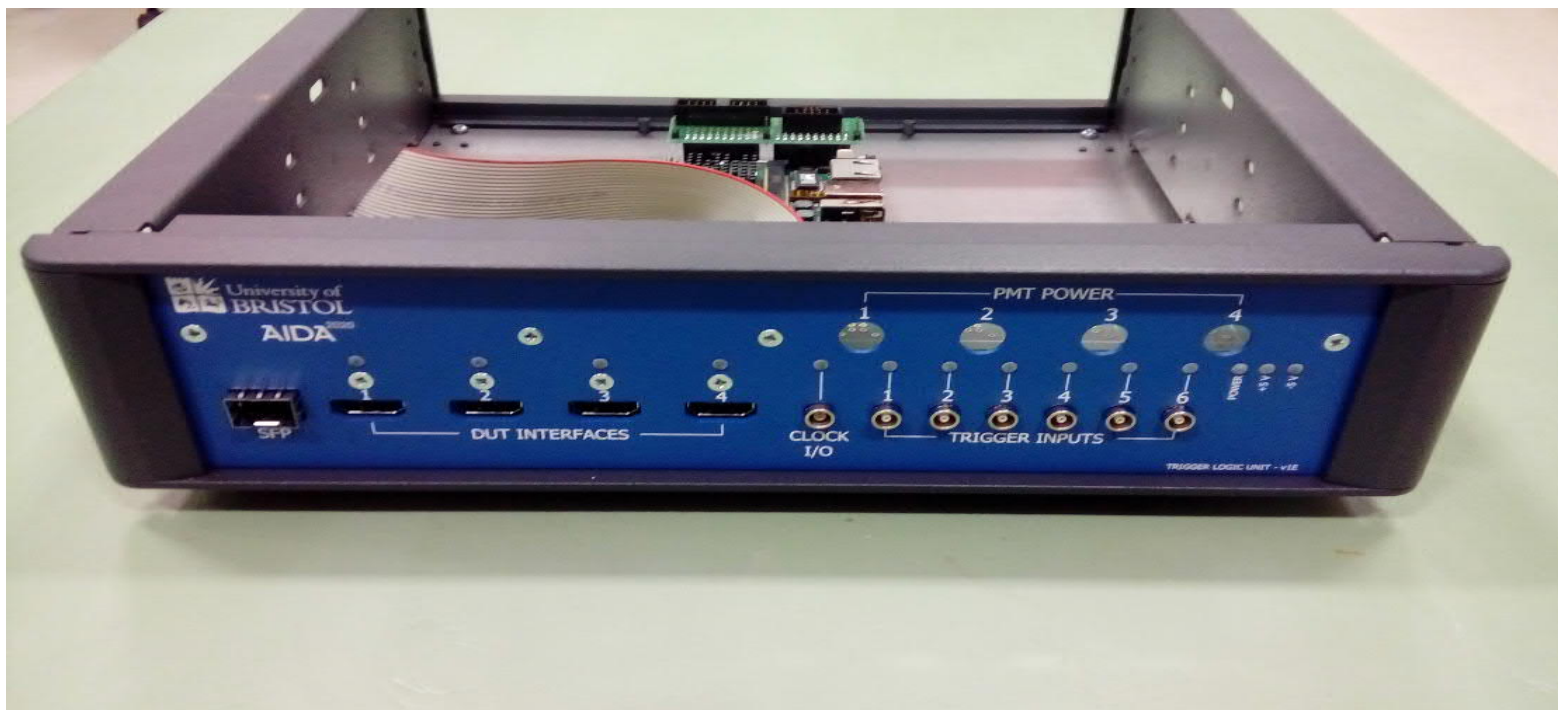
Detailed discussions at Telescope meetings on: Nov, 1 2018

TEST BEAM SCHEDULE for 2019 at DESY (Cont.)



Very important remark the data is align later off line

TEST BEAM SCHEDULE for 2019 at DESY (Cont.)



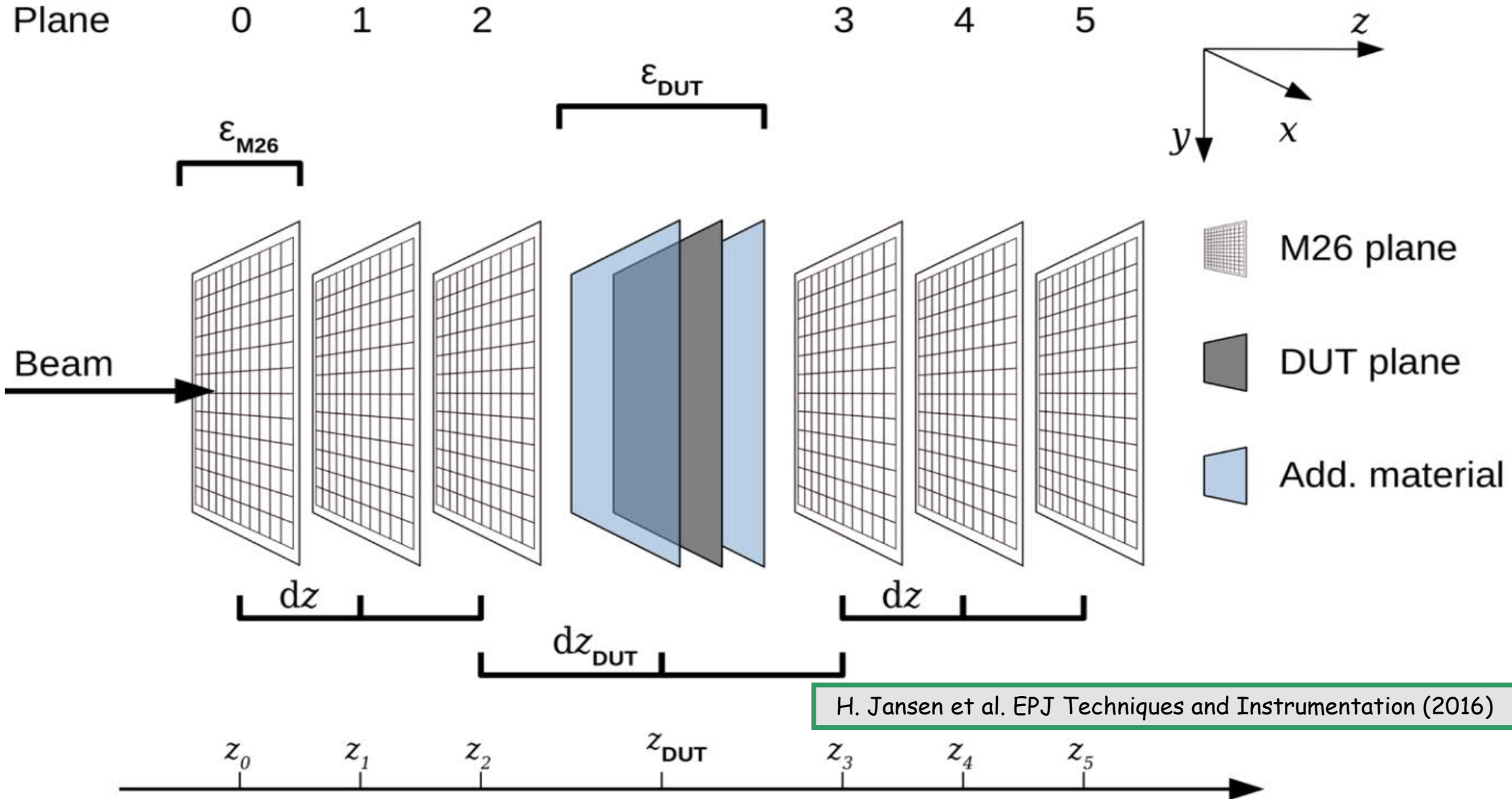
TLU:

- Upto 6 input trigger signals
- Output: Trigger ID (1 EC[15]... EC[0] 0 0) (LVDS) → To be implemented

SUMMARY

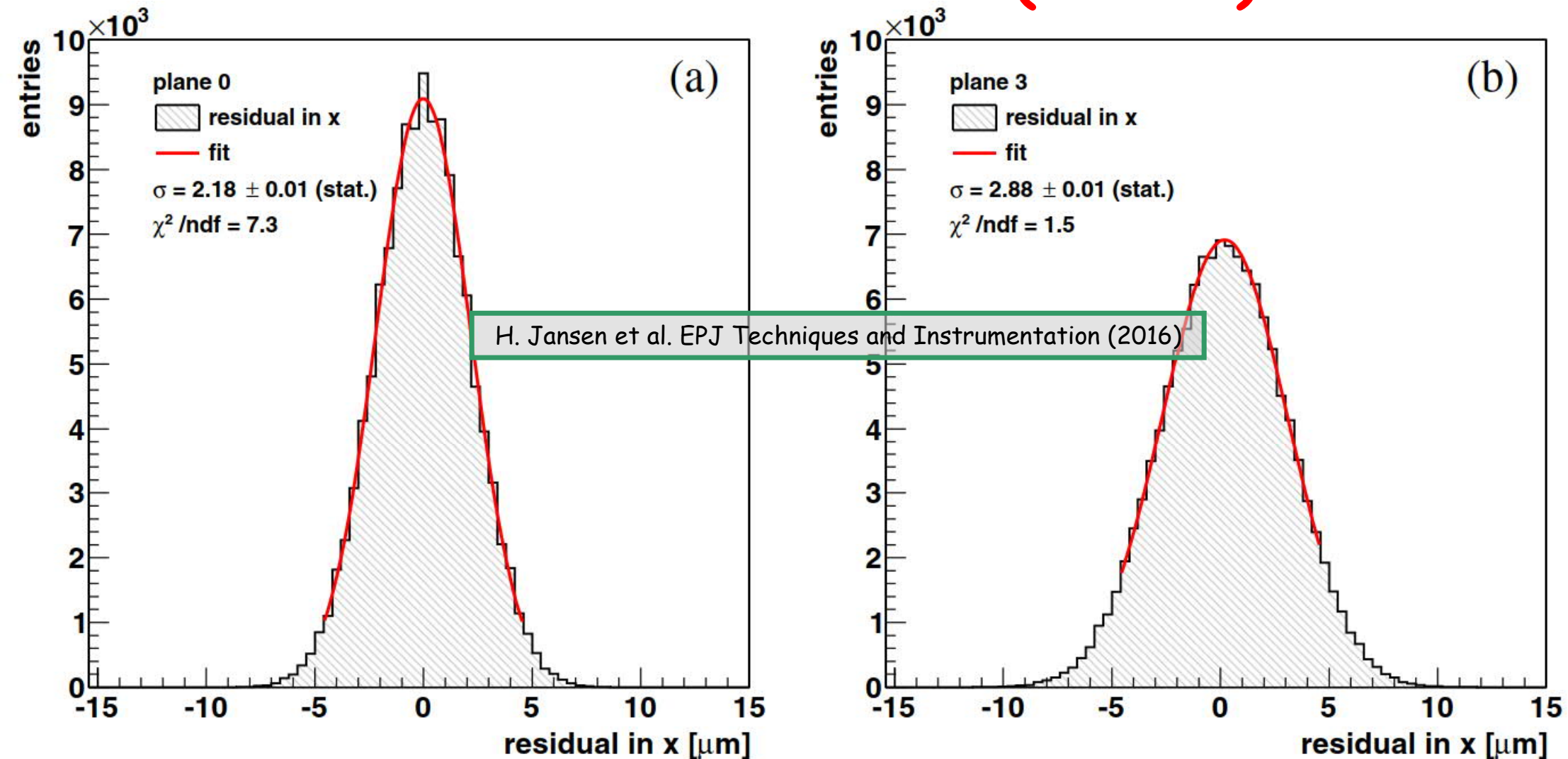
1. TB schedule for Q2/2019 will be announced later
2. All interested groups needs to start preparations for this test beam
3. Each test setup needs to have a full functioning setup before moving to DESY, including cables, power suppliers, cables, stands etc.
4. The only thing we need to expect from DESY of the fully functioning telescope
5. TB request for PSI already submitted (Sep. & Nov.)
6. TB at Fermilab can be requested → Event counter output from tracker can be done (Lorenzo et al.)

BACKUP SLIDES



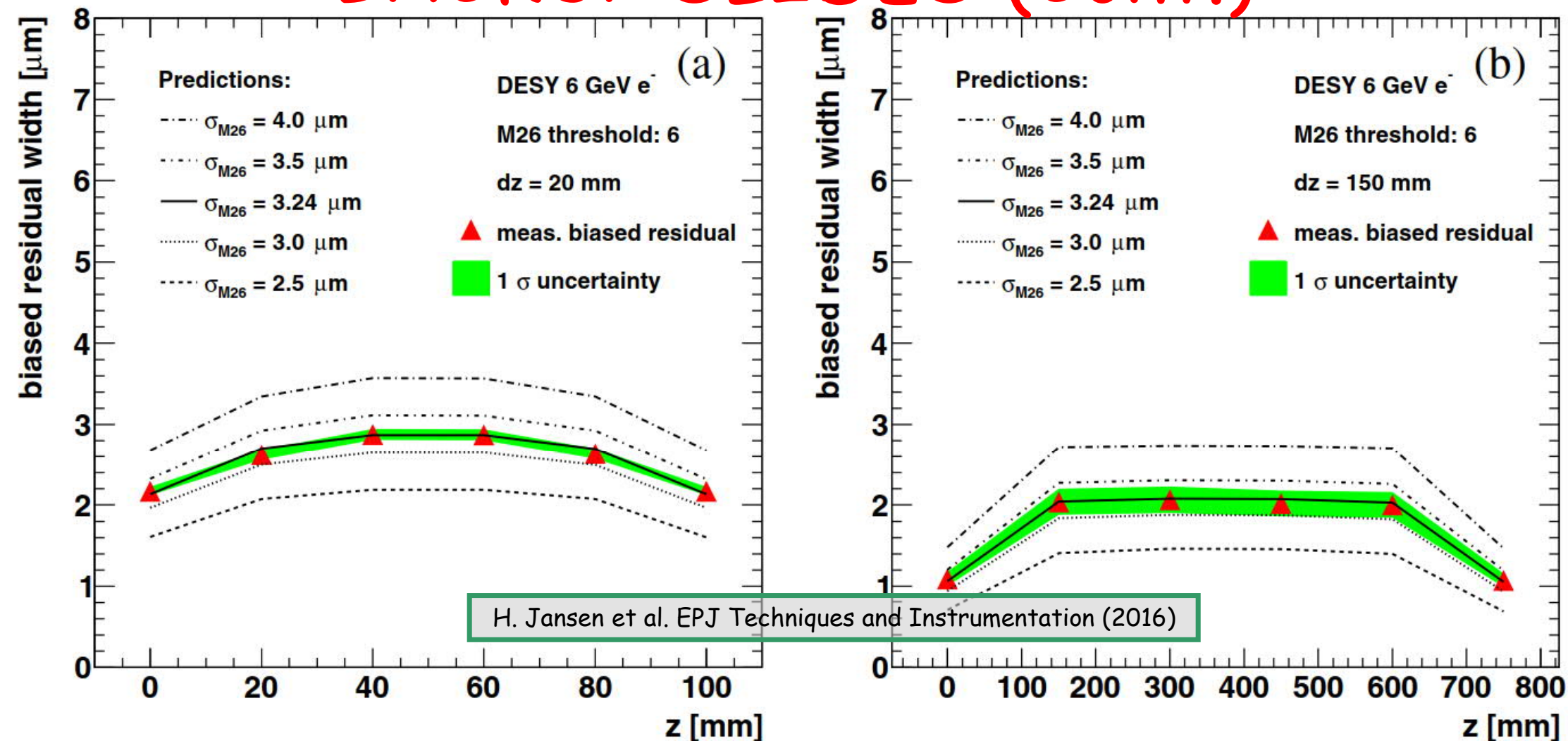
H. Jansen et al. EPJ Techniques and Instrumentation (2016)

BACKUP SLIDES (Cont.)



Biased residual distributions measured with the DATURA telescope at 6 GeV with a plane spacing of $dz = 20$ mm. The measured residuals in the x-direction for plane 0 **(a)** and plane 3 **(b)** are shown

BACKUP SLIDES (Cont.)



The measured residual widths of each telescope plane are shown in the x-direction for a plane spacing of $dz = 20$ mm **(a)** and $dz = 150$ mm **(b)**. The *black* line shows the predicted residual width at $\sigma_{M26} = 3.24 \mu\text{m}$, the *green* band the measurement's standard deviation