

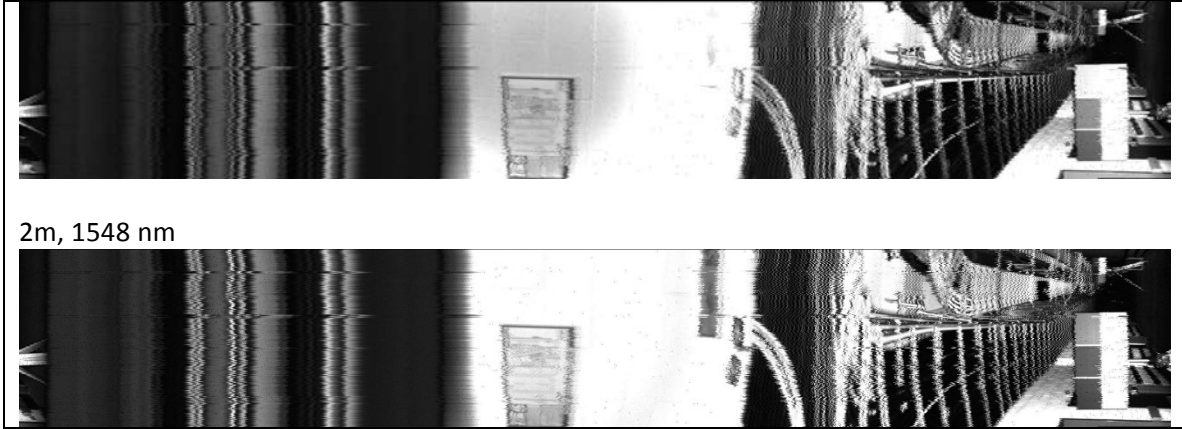
DWEL Data Summary of Brisbane Field Campaign in Australia

List of DWEL scans (comments, notes and image preview for each scan are listed following the table)

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
7/30/2013	Ecoscience Precinct B3	Panel at 2m	1.55	2.5	2
7/30/2013	Ecoscience Precinct B3	Panel at 4m	1.55	2.5	2
7/30/2013	Ecoscience Precinct B3	Panel at 6m	1.55	2.5	2
7/31/2013	Karawatha 001	Center	1.19	2.5	2
7/31/2013	Karawatha 001	North	1.18	2.5	2
7/31/2013	Karawatha 001	South	1.1	2.5	2
7/31/2013	Karawatha 001	West	1.16	2.5	2
8/1/2013	Karawatha 005	Center	1.15	2.5	2
8/1/2013	Karawatha 005	West	1.14	2.5	2
8/1/2013	Karawatha 005	East	1.23	2.5	2
8/1/2013	Karawatha 005	North	1.21	2.5	2
8/2/2103	Brisbane Forest Park	Center, first half scan	1.10	1.25	1
8/2/2013	Brisbane Forest Park	Center, second half scan	1.10	1.25	1
8/3/2013	Brisbane Forest Park	South	1.13	2.5	2
8/3/2013	Brisbane Forest Park	East	1.14	2.5	2
8/3/2013	Brisbane Forest Park	West	1.11	2.5	2
8/3/2013	Brisbane Forest Park	Center	1.18	2.5	2

Notes for the calibration scans at ESP basement:

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
7/30/2013	Ecoscience Precinct B3	Panel at 2/4/6 m	1.55	2.5	2
<p>Notes:</p> <ul style="list-style-type: none"> - Before starting the scanning, a Lambertian panel was put at 30m away from the instrument. The laser power of the two wavelengths was adjusted so that the return power from the Lambertian panel at both wavelengths was equal. - A check board panel was put at 8m away all the time while the other check board panel was moved from 2m to 6m. The scan position is labeled by the distance of the moving panel. <p>Preview of the scanning image: 2m, 1064 nm</p>					



Notes for the scans in the forests:

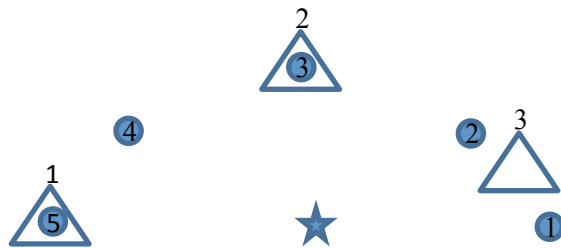
- During each scan in the forests, a check board panel was put at three positions 10m away from the instrument. The panel was moved from one position to the next one when the instrument was scanning. The purpose was to have a panel scanned early, middle, and late in the scan period to detect possible changes in laser output power with time and temperature.

- The panel positions were chosen based on SALCA's layout of panel positions. At the same time we made the positions as evenly spaced around the instrument as possible. So sometimes a new position was used instead of a SALCA one to satisfy the even-spaced requirement.

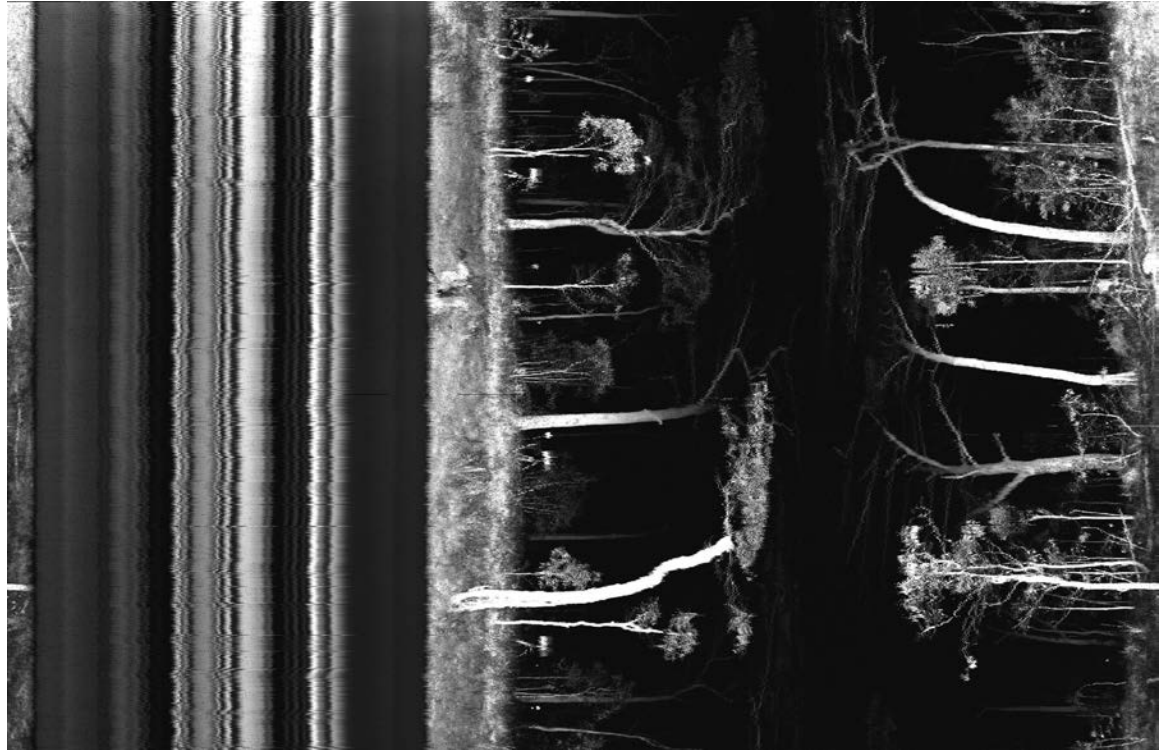
- In the sketches of panel positions below, star is the instrument, circles are SALCA positions and big triangles are DWEL positions. The numbers above the triangles give the order of DWEL scanning the panel.

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
7/31/2013	Karawatha 001	Center	1.19	2.5	2

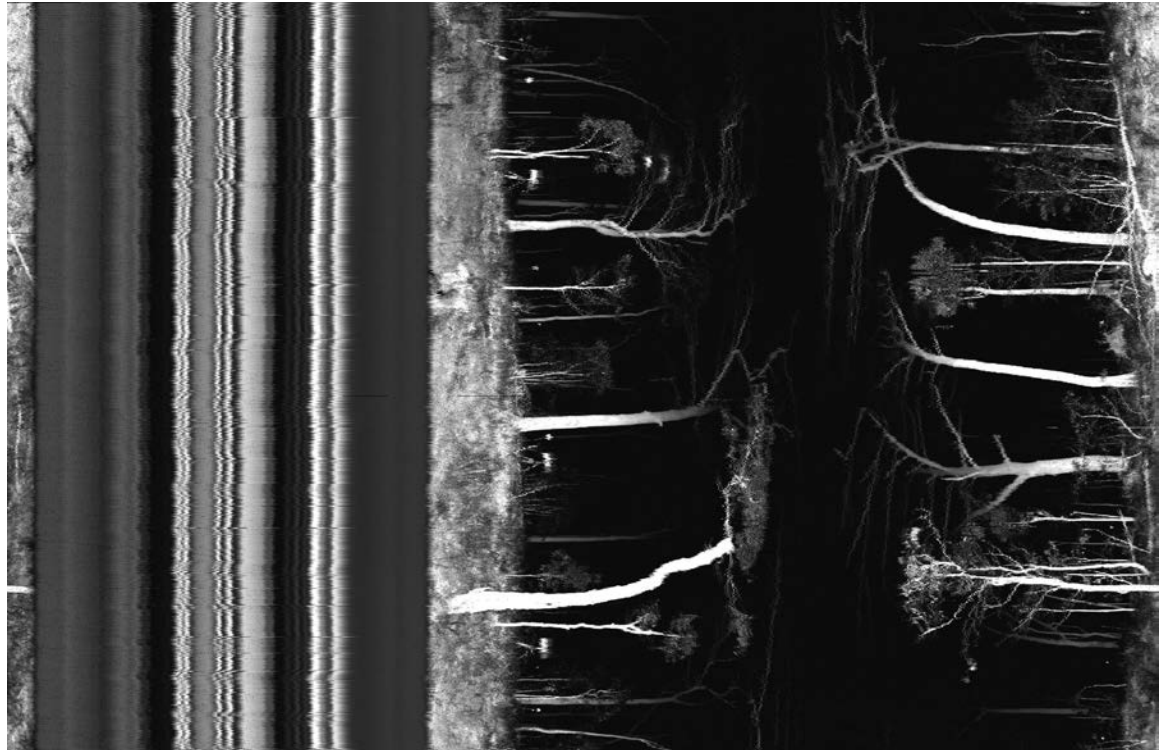
Notes:
 - Two SALCA calibration panel positions (5 and 3) were used for DWEL (1 and 2). The third position was a new one (DWEL 3).



Preview of the scanning image:
1064 nm



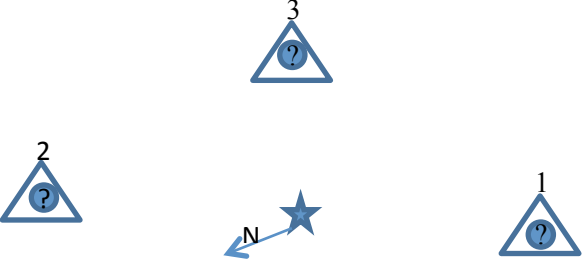
1548 nm

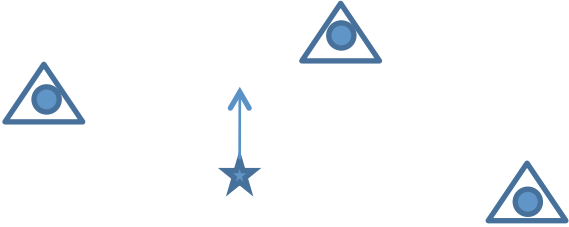


Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
7/31/2013	Karawatha 001	North	1.18	2.5	2
<p>Notes:</p> <ul style="list-style-type: none"> - No SALCA position was found and used at the plot. All panel positions for DWEL were new. - First scan failed because we ran out of disk space on the computer in the middle of the scan. A second scan was collected. 					
Preview of the scanning image: TBD					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
7/31/2013	Karawatha 001	South	1.1	2.5	2
<p>Notes:</p> <ul style="list-style-type: none"> - All three SALCA calibration panel positions (3, 1 and 5) were used for DWEL (1, 2 and 3) - We checked the azimuth range coverage of the scan at this plot. The start position of the scan was marked and assured that the end of the scan went back the marked start and overlapped. 					
Preview of the scanning image: TBD					

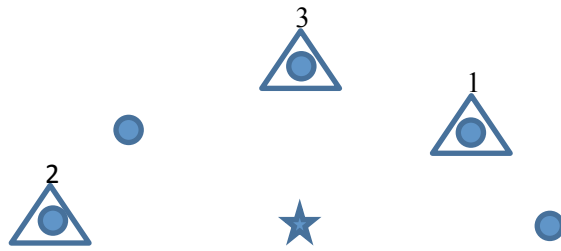
Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)

7/31/2013	Karawatha 001	West	1.16	2.5	2
<p>Notes:</p> <p>- All three SALCA calibration panel positions were used for DWEL (1, 2 and 3). But which SALCA ones were unknown because no label on the flag was found. North is marked in the sketch for the match with SALCA panel positions.</p> 					
<p>Preview of the scanning image: TBD</p>					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/1/2013	Karawatha 005	Center	1.15	2.5	2
<p>Notes:</p> <p>- All three SALCA calibration panel positions were used for DWEL (1, 2 and 3). But which SALCA ones were unknown because we forgot to check the label on the flag. North is marked in the sketch for the match with SALCA panel positions.</p> 					
<p>Preview of the scanning image: TBD</p>					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/1/2013	Karawatha 005	West	1.14	2.5	2
<p>Notes:</p>					

- All three SALCA calibration panel positions were used for DWEL (1, 2 and 3). But which SALCA ones were unknown because no label was found on the flag. The layout of all SALCA and DWEL positions are sketched for the match.

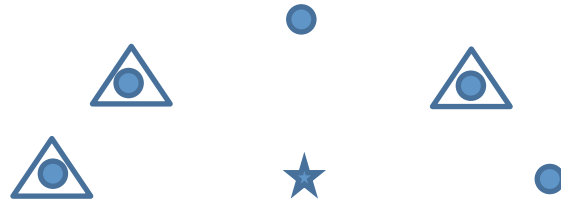


Preview of the scanning image:
TBD

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/1/2013	Karawatha 005	East	1.23	2.5	2

Notes:

- All three SALCA calibration panel positions were used for DWEL (1, 2 and 3). But which SALCA ones were unknown because no label was found on the flag. The layout of all SALCA and DWEL positions are sketched for the match.



Preview of the scanning image:
TBD

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/1/2013	Karawatha 005	North	1.21	2.5	2

Notes:

Preview of the scanning image:
TBD

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
<p>Notes:</p> <ul style="list-style-type: none"> - All three SALCA calibration panel positions were used for DWEL (1, 2 and 3). But which SALCA ones were unknown because no label was found on the flag. The layout of all SALCA and DWEL positions are sketched for the match. 					
<p>Preview of the scanning image: TBD</p>					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/2/2103	Brisbane Forest Park	Center, first/second half scans	1.10	1.25	1
<p>Notes:</p> <ul style="list-style-type: none"> - 1548 nm laser was not working at first. Removed the side panel to check wire connections to ?. It looked fine but wiggled PW on? 1548. Then it worked okay (connected). - The instrument was rotated 180 degree (not 360 degree) to match the start and end locations of first and second half scans. Azimuth angles in one of the half scans need subtract/add 180 degree in post processing. 					
<p>Preview of the scanning image: TBD</p>					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/3/2013	Brisbane Forest Park	South	1.13	2.5	2
<p>Notes:</p> <ul style="list-style-type: none"> - First scan was stopped to check the encoder measurement. Then we rescanned this plot. 					
<p>Preview of the scanning image: TBD</p>					

Date	Site	Scan position	Instrument	Beam	Angular
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			Height (m)	divergence (mrad)	resolution (mrad)
8/3/2013	Brisbane Forest Park	East	1.14	2.5	2
Notes:					
Preview of the scanning image: TBD					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/3/2013	Brisbane Forest Park	West	1.11	2.5	2
Notes: - used 2nd, 4th SALCA target locations, last one was separately placed about 2 m counterclockwise from first placement					
Preview of the scanning image: TBD					

Date	Site	Scan position	Instrument Height (m)	Beam divergence (mrad)	Angular resolution (mrad)
8/3/2013	Brisbane Forest Park	Center	1.18	2.5	2
Notes: - BEI error happened in the first scan. Then we scanned this plot for a second time. - Center scan point: SALCA target points 3 to 5 to 2 in final scan.					
Preview of the scanning image: TBD					