

# Errata

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This document lists errata for the dissertation titled “*Digital Systems for the MITRA*” submitted by Ruben Anderson Louis.

Location	Type	To be fixed
Pg. vi item 2.5	Missing word	Word "from", missing between " <i>source is offset</i> ", and " <i>the phase centre</i> ".
Pg. 3 Sec. 1.1 Par. 1 4 <sup>th</sup> row 2 <sup>nd</sup> sentence	Wrong word	Should be "Diffraction affects all types of", instead of " <i>Diffraction effects all types of</i> ".
Pg. 5 Sec. 1.2 Par. 2 7 <sup>th</sup> row	Missing words	Should be "E-W, and 4 other oriented" instead of " <i>E-W 4 other oriented</i> ".
Pg. 6 Sec. 1.4 Par. 1 2 <sup>nd</sup> row 2 <sup>nd</sup> sentence	Spelling	Misspelled word "concise" as " <i>consise</i> ".
Pg. 6 Sec. 1.4 Par. 1 6 <sup>th</sup> row 2 <sup>nd</sup> sentence	Missing word	Word "the", missing between " <i>is a discussion about</i> ", " <i>application of in GPGPU</i> ".
Pg. 7 Sec. 2.1 Par. 1 1 <sup>st</sup> row 1 <sup>st</sup> sentence	Superfluous word	" <i>which shows <del>a</del>n incoming electromagnetic planar wavefronts</i> ".
Pg. 7 Sec. 2.1 Par. 1 2 <sup>th</sup> row 2 <sup>st</sup> sentence	Ambiguous spelling	author meaning "direction of the wavefronts", instead of " <i>direction of the wavefront</i> ".
Pg. 10 Sec. 2.1.1 Par. 1 Eq. 2.13	Serious typographical mistake	$V'(u, v, w) = \iint_{\text{sky patch}} A_N I(l, m) e^{-j2\pi(\mathbf{D}_\lambda \cdot (\hat{\mathbf{s}}_0 - \hat{\mathbf{s}}))} d\Omega$ <p>instead of the wrong eq. present as follows:</p> $V'(u, v, w) = \iint_{\text{sky patch}} A_N I(l, m) e^{-j2\pi(\mathbf{D}_\lambda \cdot \hat{\mathbf{s}})} d\Omega$

Pg. 11 Sec. 2.1.1 Par. 1 2.15	Serious typographical mistake	$(\sqrt{(1-l^2-m^2)}-1)w \simeq -\frac{1}{2}(l^2+m^2)w$ instead of the wrong square root terms present as follows: $(\sqrt{(1-l^2-m^2)}-1)w \simeq -\frac{1}{2}(l^2+m^2)w$
Pg. 12 Sec. 2.2 Par. 2 Fig. 2.5 label	Missing punctuation	Should be "Visibility function, source offset from the phase centre", instead of : <i>"Visibility function source offset from the phase centre"</i> .
Pg. 15 Sec. 2.3 4 <sup>th</sup> row	Serious typographical mistake	$\frac{(ul+vm)}{\nu}$ instead of the wrong $n$ coordinate present as follows: $\frac{(ul+vn)}{\nu}$
Pg. 15 Sec. 2.3 5 <sup>th</sup> row	Wrong word	Should be "the path length is the <u>greatest</u> ", instead of " <i>the path length is the <u>greater</u></i> ".
Pg. 15 Sec. 2.3 Eq. 2.28	Serious typographical mistake	$r = \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} I(l, m) A(l, m) e^{-j2\pi(lu+mv)} dl dm \int_{-\infty}^{\infty}  H(\nu) ^2 d\nu$ instead of the exponential term as follows: $r = \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} I(l, m) A(l, m) dl dm \int_{-\infty}^{\infty}  H(\nu) ^2 \overline{e^{-j2\pi(lu+mv)}} d\nu$
Pg. 15 Sec. 2.3 Eq. 2.29	Serious typographical mistake	$A_0 V(u, v) \int_{-\infty}^{\infty}  H(\nu) ^2 d\nu$ instead of the exponential term as follows: $A_0 V(u, v) \int_{-\infty}^{\infty}  H(\nu) ^2 \overline{e^{-j2\pi(lu+mv)}} d\nu$
3 <sup>rd</sup> Par. at Pg. 15 Sec. 2.3, last sentence	Serious typographical mistake	Instead of "constant over a bandwidth, $\Delta\nu$ ", "constant over a bandwidth, $A_0$ ", has been written.
Last Par. at Pg. 15 Sec. 2.3, 1 <sup>st</sup> sentence	Serious typographical mistake	The (Jansky) unit should be " $\text{W m}^{-2} \text{Hz}^{-1}$ ", instead of " $\text{W m}^2 \text{Hz}^{-1}$ ".
Pg. 16, 1 <sup>st</sup> Par. Sec. 2.4.1, 3 <sup>rd</sup> row, 1 <sup>st</sup> sentence	Superfluous punctuation	(Thompson et al., 2008, Sec 8.7),.

Pg. 20 Sec. 3.2 Table 3.2, 1 <sup>st</sup> row, 3 <sup>rd</sup> column, 2 <sup>nd</sup> line	Typographical mistake	Should be "8903MHz" instead of "8903MHZ".
Pg. 20 Sec. 3.2 Table 3.2, 1 <sup>st</sup> row, 3 <sup>rd</sup> column, 2 <sup>nd</sup> line	Ambiguous indication	The range is indicated as 2333MHz - 8903MHz (8x8MHz bands) but actually it is not a continuous one there are only 8, 8MHz bands that are present from parts of this range in the dataset.
Pg. 20 Sec. 3.2 Table 3.2, 1 <sup>st</sup> row, 3 <sup>rd</sup> column, 3 <sup>rd</sup> line	Typographical mistake	Should be "observation" instead of " <i>Observertation</i> ".
Pg. 20 Sec. 3.2 Table 3.2, 2 <sup>nd</sup> row, 3 <sup>rd</sup> column, 4 <sup>th</sup> & 5 <sup>th</sup> line	Typographical mistake	Should be "8441MHz", "8425MHz", instead of "8441MHZ", "8425MHZ".
Pg. 20 Sec. 3.2 Table 3.2, 2 <sup>nd</sup> row, 3 <sup>rd</sup> column, 5 <sup>th</sup> line	Typographical mistake	Should be "observation" instead of " <i>Observertation</i> ".

Pg. 20 Sec. 3.2 Table 3.2, 3 <sup>rd</sup> row, 3 <sup>rd</sup> column, 2 <sup>nd</sup> line	Typographical mistake	Should be "8.2GHz" instead of "8.2GHZ".
Pg. 20 Sec. 3.2 Table 3.2, 3 <sup>rd</sup> row, 3 <sup>rd</sup> column, 2 <sup>nd</sup> line	Ambiguous indication	The range is indicated as 2.3GHz - 8.9GHz (16x16MHz bands) but actually it is not a continuous one there are only 16, 16MHz bands that are present from parts of this range in the dataset.
Pg. 20 Sec. 3.2 Table 3.2, 3 <sup>rd</sup> row, 3 <sup>rd</sup> column, 3 <sup>rd</sup> line	Typographical mistake	Should be "observation" instead of " <i>Observertation</i> ".
Pg. 20 Sec. 3.2 Table 3.2, 4 <sup>th</sup> row, 3 <sup>rd</sup> column, 3 <sup>rd</sup> line	Typographical mistake	Should be "1674MHz" instead of "1674MHZ".
Pg. 20 Sec. 3.2 Table 3.2, 4 <sup>th</sup> row, 3 <sup>rd</sup> column, 4 <sup>th</sup> line	Typographical mistake	Should be "observation" instead of " <i>Observertation</i> ".
Pg. 21 Sec. 3.2.1 4 <sup>th</sup> row, 2 <sup>nd</sup> sentence	Missing words	Should be "Inside the .vex files there are", instead of " <i>Inside the .vex are</i> ".
Pg. 21 Sec. 3.2.1 last Par. 3 <sup>rd</sup> row	Wrong order	Should be "as reference the run time of the single-core setup", instead of " <i>as reference the time run of the single-core setup</i> ".

Pg. 23, 2 <sup>nd</sup> row Sec. 3.2.1	Superfluous word	" <i>number of frequency channels</i> "
Pg. 24, 3 <sup>rd</sup> row Sec. 3.2.1	Grammatical	Should be "recent generation architecture, which <b>has</b> a greater" instead of " <i>recent generation architecture, which <b>have</b> a greater</i> ".
Pg. 25, Sec. 3.2.2, 1 <sup>st</sup> Par., 3 <sup>rd</sup> row	Superfluous white space	"( <i>_baselines u, v, w coordinates</i> )".
Pg. 26, Sec. 3.2.2, Fig. 3.14	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 27, Sec. 3.2.2, Fig. 3.15	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 28, Sec. 3.2.2, Fig. 3.16 (B)	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 29, 2 <sup>nd</sup> Par. Sec. 3.2.2, 1 <sup>st</sup> line	Missing word	Should be "that the LBA <b>format</b> consists of " instead of " <i>that the LBA consists of</i> ".
Pg. 29, 2 <sup>nd</sup> Par. Sec. 3.2.2, Last line	Typographical mistake	Should be " <b>channels</b> " instead of " <i>channelsy</i> ".
Pg. 30, 1 <sup>st</sup> Par. Sec. 3.2.2, 2 <sup>nd</sup> line	Missing word	Should be "found <b>to</b> be very similar" instead of " <i>found be very similar</i> ".
Pg. 30, Sec. 3.2.2, Fig. 3.18	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 31, Sec. 3.2.2, Fig. 3.20	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 32, Sec. 3.2.2, Fig. 3.22	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 33, Sec. 3.2.2, Fig. 3.24	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 34, Sec. 3.2.2, Fig. 3.26	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".

Pg. 36, Sec. 3.2.2, Fig. 3.30	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 37, Sec. 3.2.2, Fig. 3.32	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 37, Sec. 3.2.2, Fig. 3.34	Missing information	Should be "Power <b>and phase</b> spectrum" instead of " <i>Power spectrum</i> ".
Pg. 37, Sec. 3.2.2, Fig. 3.36	Missing information	There should be a text note specifying that the figure shows the " <b>power and phase spectrum</b> ".
Pg. 40, Sec. 4.1, 1 <sup>st</sup> Par., 2 <sup>nd</sup> line	Grammatical	Should be "use of more processing cores scaled with performance increase" instead of " <i>use of more processing core scaled with performance increase</i> ".
Pg. 41 Sec. 4.1.1 Par. 1 1 <sup>st</sup> line	Missing punctuation	Should be "allocated to hardware, related to data control" , instead of : " <i>allocated to hardware related to data control</i> ".
Pg. 41 Sec. 4.1.1 Par. 1 2 <sup>st</sup> line	Missing punctuation	Should be "caching memory, and actually the processing units", instead of : " <i>caching memory and actually the processing units</i> ".
Pg. 41 Sec. 4.1.1 Par. 1 3 <sup>rd</sup> line	Superfluous word	Should be "displayed in green known as the ALUs", instead of : " <i>displayed in green and known as the ALUs</i> ".
Pg. 41 Sec. 4.1.1 Par. 1 4 <sup>th</sup> line, 2 <sup>nd</sup> sentence	Grammatical	Should be "logical reasons for both considerations", instead of : " <i>logical reasons for both consideration</i> ".
Pg. 43 Sec. 4.1.1 Par. 1 8 <sup>th</sup> line	Grammatical	Should be "8-cores", instead of : " <i>8-core</i> ".
Pg. 44 Sec. 5.1 last line	Missing Word	Should be "low occupancy and <b>low</b> data transfer", instead of : " <i>low occupancy and data transfer</i> ".

Pg. 49, Sec. A.3, 2 <sup>nd</sup> line	Syntactic	Should be "to calculate values for its plots, and the values of the plots also" instead of " <i>to calculate values for its plots, and the plots values also</i> ".
Pg. 59, Sec. A.4, 2 <sup>nd</sup> Par., 1 <sup>st</sup> line	Grammatical	Should be "the value of the seed was stored in the same directory" instead of " <i>the value of the seed was store in the same directory</i> ".