

Machine Vision and Applications

An Unsupervised Approach for Thermal to Visible Image Translation using Autoencoder and Generative Adversarial Network --Manuscript Draft--

Manuscript Number:	
Full Title:	An Unsupervised Approach for Thermal to Visible Image Translation using Autoencoder and Generative Adversarial Network
Article Type:	Full Paper
Corresponding Author:	Kishor P. Upla INDIA
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	
Corresponding Author's Secondary Institution:	
First Author:	Heena Patel
First Author Secondary Information:	
Order of Authors:	Heena Patel Kishor P. Upla
Order of Authors Secondary Information:	
Funding Information:	
Abstract:	<p>The thermal to visible image translation is essential for night-vision applications since images acquired during night-time using visible camera are relying on the amount of illumination present around the objects being observed. Due to the poor lighting conditions and/or poor illumination during night-time, they often fail to acquire object details and hence they are no longer useful for high-end applications. The current research on image-to-image translation for day-time has achieved remarkable performance using deep learning methods. However, it is very challenging to obtain same performance for night-time images, especially for the situations when low/no sources of light are available. The existing state-of-the-art image-to-image methods suffer from lack of preservation of fine details and also with incorrect mapping for night-time images due to unavailability of better corresponding visible images. Therefore, a novel architecture is proposed here to provide better visual information in night-time scenario using unsupervised training. The proposed architecture consists of Generative Adversarial Networks (GANs) and Autoencoders (AEs) with a newly proposed Residual Block (Resblock) to extract versatile features from thermal and visible images. In order to learn better visualization of night-time images, we also introduce the gradient based loss function along with standard GAN and cycle consistency losses in the proposed method. A weight sharing concept is implied further to relate features of thermal and visible domains. The comparison of the translated images obtained using the proposed method with that of obtained using other existing state-of-the-art methods on night-vision images shows committed qualitative improvement in addition to superior quantitative performance of the proposed method in terms of no-reference quality metrics such as NIQE, BRISQUE, etc.</p>
Suggested Reviewers:	

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

```
This is pdfTeX, Version 3.14159265-2.6-1.40.19 (TeX Live 2018/W32TeX)
(preloaded format=pdflatex 2018.7.12) 11 AUG 2020 07:35
entering extended mode
  restricted \writel8 enabled.
  %&-line parsing enabled.
**mva_journal.tex
(./MVA_journal.tex
LaTeX2e <2018-04-01> patch level 5

LaTeX Warning: File `example.eps' already exists on the system.
                Not generating it from this source.

(c:/TeXLive/2018/texmf-dist/tex/latex/base/fix-cm.sty
Package: fix-cm 2015/01/14 v1.1t fixes to LaTeX
(c:/TeXLive/2018/texmf-dist/tex/latex/base/tslenc.def
File: tslenc.def 2001/06/05 v3.0e (jkk/car/fm) Standard LaTeX file
Now handling font encoding TS1 ...
... processing UTF-8 mapping file for font encoding TS1
(c:/TeXLive/2018/texmf-dist/tex/latex/base/tslenc.dfu
File: tslenc.dfu 2018/04/05 v1.2c UTF-8 support for inputenc
  defining Unicode char U+00A2 (decimal 162)
  defining Unicode char U+00A3 (decimal 163)
  defining Unicode char U+00A4 (decimal 164)
  defining Unicode char U+00A5 (decimal 165)
  defining Unicode char U+00A6 (decimal 166)
  defining Unicode char U+00A7 (decimal 167)
  defining Unicode char U+00A8 (decimal 168)
  defining Unicode char U+00A9 (decimal 169)
  defining Unicode char U+00AA (decimal 170)
  defining Unicode char U+00AC (decimal 172)
  defining Unicode char U+00AE (decimal 174)
  defining Unicode char U+00AF (decimal 175)
  defining Unicode char U+00B0 (decimal 176)
  defining Unicode char U+00B1 (decimal 177)
  defining Unicode char U+00B2 (decimal 178)
  defining Unicode char U+00B3 (decimal 179)
  defining Unicode char U+00B4 (decimal 180)
  defining Unicode char U+00B5 (decimal 181)
  defining Unicode char U+00B6 (decimal 182)
  defining Unicode char U+00B7 (decimal 183)
  defining Unicode char U+00B9 (decimal 185)
  defining Unicode char U+00BA (decimal 186)
  defining Unicode char U+00BC (decimal 188)
  defining Unicode char U+00BD (decimal 189)
  defining Unicode char U+00BE (decimal 190)
  defining Unicode char U+00D7 (decimal 215)
  defining Unicode char U+00F7 (decimal 247)
  defining Unicode char U+0192 (decimal 402)
  defining Unicode char U+02C7 (decimal 711)
  defining Unicode char U+02D8 (decimal 728)
  defining Unicode char U+02DD (decimal 733)
  defining Unicode char U+0E3F (decimal 3647)
  defining Unicode char U+2016 (decimal 8214)
  defining Unicode char U+2020 (decimal 8224)
```

```

1
2
3
4     defining Unicode char U+2021 (decimal 8225)
5     defining Unicode char U+2022 (decimal 8226)
6     defining Unicode char U+2030 (decimal 8240)
7     defining Unicode char U+2031 (decimal 8241)
8     defining Unicode char U+203B (decimal 8251)
9     defining Unicode char U+203D (decimal 8253)
10    defining Unicode char U+2044 (decimal 8260)
11    defining Unicode char U+204E (decimal 8270)
12    defining Unicode char U+2052 (decimal 8274)
13    defining Unicode char U+20A1 (decimal 8353)
14    defining Unicode char U+20A4 (decimal 8356)
15    defining Unicode char U+20A6 (decimal 8358)
16    defining Unicode char U+20A9 (decimal 8361)
17    defining Unicode char U+20AB (decimal 8363)
18    defining Unicode char U+20AC (decimal 8364)
19    defining Unicode char U+20B1 (decimal 8369)
20    defining Unicode char U+2103 (decimal 8451)
21    defining Unicode char U+2116 (decimal 8470)
22    defining Unicode char U+2117 (decimal 8471)
23    defining Unicode char U+211E (decimal 8478)
24    defining Unicode char U+2120 (decimal 8480)
25    defining Unicode char U+2122 (decimal 8482)
26    defining Unicode char U+2126 (decimal 8486)
27    defining Unicode char U+2127 (decimal 8487)
28    defining Unicode char U+212E (decimal 8494)
29    defining Unicode char U+2190 (decimal 8592)
30    defining Unicode char U+2191 (decimal 8593)
31    defining Unicode char U+2192 (decimal 8594)
32    defining Unicode char U+2193 (decimal 8595)
33    defining Unicode char U+2329 (decimal 9001)
34    defining Unicode char U+232A (decimal 9002)
35    defining Unicode char U+2422 (decimal 9250)
36    defining Unicode char U+25E6 (decimal 9702)
37    defining Unicode char U+25EF (decimal 9711)
38    defining Unicode char U+266A (decimal 9834)
39    defining Unicode char U+FEFF (decimal 65279)
40
41
42 ))) (./svjour3.cls
43 Document Class: svjour3 2007/05/08 v3.2
44 LaTeX document class for Springer journals
45 (c:/TeXLive/2018/texmf-dist/tex/latex/base/fleqn.clo
46 File: fleqn.clo 2016/12/29 v1.2a Standard LaTeX option (flush left
47 equations)
48 \mathindent=\dimen102
49 Applying: [2015/01/01] Make \[ robust on input line 50.
50 LaTeX Info: Redefining \[ on input line 51.
51 Already applied: [0000/00/00] Make \[ robust on input line 62.
52 Applying: [2015/01/01] Make \] robust on input line 74.
53 LaTeX Info: Redefining \] on input line 75.
54 Already applied: [0000/00/00] Make \] robust on input line 83.
55 )
56 Class Springer-SVJour3 Info: extra/valid Springer sub-package (-> *.clo)
57 (Springer-SVJour3)          not found in option list of \documentclass
58 (Springer-SVJour3)          - autoactivating "global" style.
59 (c:/TeXLive/texmf-local/tex/latex/aries/springer/svglov3.clo
60
61
62
63
64
65

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

File: svglov3.clo 2009/12/18 v3.2 style option for standardised journals
SVJour Class option: svglov3.clo for standardised journals

```
)  
LaTeX Font Info: Redefining math symbol \Gamma on input line 147.  
LaTeX Font Info: Redefining math symbol \Delta on input line 148.  
LaTeX Font Info: Redefining math symbol \Theta on input line 149.  
LaTeX Font Info: Redefining math symbol \Lambda on input line 150.  
LaTeX Font Info: Redefining math symbol \Xi on input line 151.  
LaTeX Font Info: Redefining math symbol \Pi on input line 152.  
LaTeX Font Info: Redefining math symbol \Sigma on input line 153.  
LaTeX Font Info: Redefining math symbol \Upsilon on input line 154.  
LaTeX Font Info: Redefining math symbol \Phi on input line 155.  
LaTeX Font Info: Redefining math symbol \Psi on input line 156.  
LaTeX Font Info: Redefining math symbol \Omega on input line 157.  
\logodepth=\dimen103  
\headerboxheight=\dimen104  
\betweentimespace=\dimen105  
\aftertext=\dimen106  
\headlineindent=\dimen107  
\c@inst=\count80  
\c@auth=\count81  
\instindent=\dimen108  
\authrun=\box26  
\authrunning=\toks14  
\titrun=\box27  
\titlerunning=\toks15  
\combirun=\box28  
\c@lastpage=\count82  
\rubricwidth=\dimen109  
\c@section=\count83  
\c@subsection=\count84  
\c@subsubsection=\count85  
\c@paragraph=\count86  
\c@subparagraph=\count87  
\sptmsep=\dimen110  
\c@theorem=\count88  
\c@case=\count89  
\c@conjecture=\count90  
\c@corollary=\count91  
\c@definition=\count92  
\c@example=\count93  
\c@exercise=\count94  
\c@lemma=\count95  
\c@note=\count96  
\c@problem=\count97  
\c@property=\count98  
\c@proposition=\count99  
\c@question=\count100  
\c@solution=\count101  
\c@remark=\count102  
\c@figure=\count103  
\c@table=\count104  
\abovecaptionskip=\skip41  
\belowcaptionskip=\skip42
```

```

1
2
3
4 \figcapgap=\dimen111
5 \tabcapgap=\dimen112
6 \figgap=\dimen113
7 \bibindent=\dimen114
8 \@tempcntc=\count105
9 ) (c:/TeXLive/2018/texmf-dist/tex/generic/babel/babel.sty
10 Package: babel 2018/06/05 3.22 The Babel package
11 (c:/TeXLive/2018/texmf-dist/tex/generic/babel/switch.def
12 File: switch.def 2018/06/05 3.22 Babel switching mechanism
13 ) (c:/TeXLive/2018/texmf-dist/tex/generic/babel-english/english.ldf
14 Language: english 2017/06/06 v3.3r English support from the babel system
15 (c:/TeXLive/2018/texmf-dist/tex/generic/babel/babel.def
16 File: babel.def 2018/06/05 3.22 Babel common definitions
17 \babel@savecnt=\count106
18 \U@D=\dimen115
19 (c:/TeXLive/2018/texmf-dist/tex/generic/babel/txtbabel.def)
20 \bbl@dirlevel=\count107
21 )
22
23 \l@canadian = a dialect from \language\l@american
24 \l@australian = a dialect from \language\l@british
25 \l@newzealand = a dialect from \language\l@british
26 )) (c:/TeXLive/2018/texmf-dist/tex/latex/cite/cite.sty
27 LaTeX Info: Redefining \cite on input line 302.
28 LaTeX Info: Redefining \nocite on input line 332.
29 Package: cite 2015/02/27 v 5.5
30 ) (c:/TeXLive/2018/texmf-dist/tex/latex/amsmath/amsmath.sty
31 Package: amsmath 2017/09/02 v2.17a AMS math features
32 \@mathmargin=\skip43
33 For additional information on amsmath, use the '?' option.
34 (c:/TeXLive/2018/texmf-dist/tex/latex/amsmath/amstext.sty
35 Package: amstext 2000/06/29 v2.01 AMS text
36 (c:/TeXLive/2018/texmf-dist/tex/latex/amsmath/amsgen.sty
37 File: amsgen.sty 1999/11/30 v2.0 generic functions
38 \@emptytoks=\toks16
39 \ex@=\dimen116
40 )) (c:/TeXLive/2018/texmf-dist/tex/latex/amsmath/amsbsy.sty
41 Package: amsbsy 1999/11/29 v1.2d Bold Symbols
42 \pmbraise@=\dimen117
43 ) (c:/TeXLive/2018/texmf-dist/tex/latex/amsmath/amsopn.sty
44 Package: amsopn 2016/03/08 v2.02 operator names
45 )
46
47 \inf@bad=\count108
48 LaTeX Info: Redefining \frac on input line 213.
49 \uproot@=\count109
50 \leftroot@=\count110
51 LaTeX Info: Redefining \overline on input line 375.
52 \classnum@=\count111
53 \DOTSCASE@=\count112
54 LaTeX Info: Redefining \ldots on input line 472.
55 LaTeX Info: Redefining \dots on input line 475.
56 LaTeX Info: Redefining \cdots on input line 596.
57 \Mathstrutbox@=\box29
58 \strutbox@=\box30
59 \big@size=\dimen118
60
61
62
63
64
65

```

```

1
2
3
4 LaTeX Font Info: Redefining font encoding OML on input line 712.
5 LaTeX Font Info: Redefining font encoding OMS on input line 713.
6
7 Package amsmath Warning: Unable to redefine math accent \vec.
8
9
10 \macc@depth=\count113
11 \c@MaxMatrixCols=\count114
12 \dotsspace@=\muskip10
13 \c@parentequation=\count115
14 \dspbrk@lvl=\count116
15 \tag@help=\toks17
16 \row@=\count117
17 \column@=\count118
18 \maxfields@=\count119
19 \andhelp@=\toks18
20 \eqnshift@=\dimen119
21 \alignsep@=\dimen120
22 \tagshift@=\dimen121
23 \tagwidth@=\dimen122
24 \totwidth@=\dimen123
25 \lineht@=\dimen124
26 \@envbody=\toks19
27 \multlinegap=\skip44
28 \multlinetaggap=\skip45
29 \mathdisplay@stack=\toks20
30 LaTeX Info: Redefining \[ on input line 2817.
31 LaTeX Info: Redefining \] on input line 2818.
32 ) (c:/TeXLive/2018/texmf-dist/tex/latex/mdwtools/footnote.sty
33 Package: footnote 1997/01/28 1.13 Save footnotes around boxes
34 \fn@notes=\box31
35 \fn@width=\dimen125
36 ) (c:/TeXLive/2018/texmf-dist/tex/latex/amsfonts/amsfonts.sty
37 Package: amsfonts 2013/01/14 v3.01 Basic AMSFonts support
38 \symAMSA=\mathgroup4
39 \symAMSb=\mathgroup5
40 LaTeX Font Info: Overwriting math alphabet '\mathfrak' in version
41 '\bold'
42 (Font) U/euf/m/n --> U/euf/b/n on input line 106.
43 ) (c:/TeXLive/2018/texmf-dist/tex/latex/amsfonts/amssymb.sty
44 Package: amssymb 2013/01/14 v3.01 AMS font symbols
45 ) (c:/TeXLive/2018/texmf-dist/tex/latex/graphics/graphicx.sty
46 Package: graphicx 2017/06/01 v1.1a Enhanced LaTeX Graphics (DPC,SPQR)
47 (c:/TeXLive/2018/texmf-dist/tex/latex/graphics/keyval.sty
48 Package: keyval 2014/10/28 v1.15 key=value parser (DPC)
49 \KV@toks@=\toks21
50 ) (c:/TeXLive/2018/texmf-dist/tex/latex/graphics/graphics.sty
51 Package: graphics 2017/06/25 v1.2c Standard LaTeX Graphics (DPC,SPQR)
52 (c:/TeXLive/2018/texmf-dist/tex/latex/graphics/trig.sty
53 Package: trig 2016/01/03 v1.10 sin cos tan (DPC)
54 ) (c:/TeXLive/2018/texmf-dist/tex/latex/graphics-cfg/graphics.cfg
55 File: graphics.cfg 2016/06/04 v1.11 sample graphics configuration
56 )
57 Package graphics Info: Driver file: pdftex.def on input line 99.
58 (c:/TeXLive/2018/texmf-dist/tex/latex/graphics-def/pdftex.def
59
60
61
62
63
64
65

```

```
1
2
3
4 File: pdftex.def 2018/01/08 v1.01 Graphics/color driver for pdftex
5 ))
6 \Gin@req@height=\dimen126
7 \Gin@req@width=\dimen127
8 ) (c:/TeXLive/texmf-local/tex/latex/aries/setspace.sty
9 Package: setspace 2000/12/01 6.7 Contributed and Supported LaTeX2e
10 package
11 Package: `setspace' 6.7 <2000/12/01>
12 ) (c:/TeXLive/2018/texmf-dist/tex/latex/base/textcomp.sty
13 Package: textcomp 2017/04/05 v2.0i Standard LaTeX package
14 Package textcomp Info: Sub-encoding information:
15 (textcomp)          5 = only ISO-Adobe without \textcurrency
16 (textcomp)          4 = 5 + \texteuro
17 (textcomp)          3 = 4 + \textohm
18 (textcomp)          2 = 3 + \textestimated + \textcurrency
19 (textcomp)          1 = TS1 - \textcircled - \t
20 (textcomp)          0 = TS1 (full)
21 (textcomp)          Font families with sub-encoding setting implement
22 (textcomp)          only a restricted character set as indicated.
23 (textcomp)          Family '?' is the default used for unknown fonts.
24 (textcomp)          See the documentation for details.
25 Package textcomp Info: Setting ? sub-encoding to TS1/1 on input line 79.
26 (c:/TeXLive/2018/texmf-dist/tex/latex/base/tslenc.def
27 File: tslenc.def 2001/06/05 v3.0e (jkk/car/fm) Standard LaTeX file
28 LaTeX Font Info:   Redeclaring font encoding TS1 on input line 47.
29 )
30 LaTeX Info: Redefining \oldstylenums on input line 334.
31 Package textcomp Info: Setting cmr sub-encoding to TS1/0 on input line
32 349.
33 Package textcomp Info: Setting cmss sub-encoding to TS1/0 on input line
34 350.
35 Package textcomp Info: Setting cmtt sub-encoding to TS1/0 on input line
36 351.
37 Package textcomp Info: Setting cmvtt sub-encoding to TS1/0 on input line
38 352.
39 Package textcomp Info: Setting cmbr sub-encoding to TS1/0 on input line
40 353.
41 Package textcomp Info: Setting cmtl sub-encoding to TS1/0 on input line
42 354.
43 Package textcomp Info: Setting ccr sub-encoding to TS1/0 on input line
44 355.
45 Package textcomp Info: Setting ptm sub-encoding to TS1/4 on input line
46 356.
47 Package textcomp Info: Setting pcr sub-encoding to TS1/4 on input line
48 357.
49 Package textcomp Info: Setting phv sub-encoding to TS1/4 on input line
50 358.
51 Package textcomp Info: Setting ppl sub-encoding to TS1/3 on input line
52 359.
53 Package textcomp Info: Setting pag sub-encoding to TS1/4 on input line
54 360.
55 Package textcomp Info: Setting pbk sub-encoding to TS1/4 on input line
56 361.
57
58
59
60
61
62
63
64
65
```

1
2
3
4 Package textcomp Info: Setting pnc sub-encoding to TS1/4 on input line
5 362.
6 Package textcomp Info: Setting pzc sub-encoding to TS1/4 on input line
7 363.
8 Package textcomp Info: Setting bch sub-encoding to TS1/4 on input line
9 364.
10 Package textcomp Info: Setting put sub-encoding to TS1/5 on input line
11 365.
12 Package textcomp Info: Setting uag sub-encoding to TS1/5 on input line
13 366.
14 Package textcomp Info: Setting ugq sub-encoding to TS1/5 on input line
15 367.
16 Package textcomp Info: Setting ul8 sub-encoding to TS1/4 on input line
17 368.
18 Package textcomp Info: Setting ul9 sub-encoding to TS1/4 on input line
19 369.
20 Package textcomp Info: Setting augie sub-encoding to TS1/5 on input line
21 370.
22 Package textcomp Info: Setting dayrom sub-encoding to TS1/3 on input line
23 371.
24 Package textcomp Info: Setting dayroms sub-encoding to TS1/3 on input
25 line 372.
26
27
28 Package textcomp Info: Setting pxr sub-encoding to TS1/0 on input line
29 373.
30 Package textcomp Info: Setting pxss sub-encoding to TS1/0 on input line
31 374.
32 Package textcomp Info: Setting pxtt sub-encoding to TS1/0 on input line
33 375.
34 Package textcomp Info: Setting txr sub-encoding to TS1/0 on input line
35 376.
36 Package textcomp Info: Setting txss sub-encoding to TS1/0 on input line
37 377.
38 Package textcomp Info: Setting txtt sub-encoding to TS1/0 on input line
39 378.
40 Package textcomp Info: Setting lmr sub-encoding to TS1/0 on input line
41 379.
42 Package textcomp Info: Setting lmdh sub-encoding to TS1/0 on input line
43 380.
44 Package textcomp Info: Setting lmss sub-encoding to TS1/0 on input line
45 381.
46 Package textcomp Info: Setting lmssq sub-encoding to TS1/0 on input line
47 382.
48 Package textcomp Info: Setting lmvtt sub-encoding to TS1/0 on input line
49 383.
50 Package textcomp Info: Setting lmtt sub-encoding to TS1/0 on input line
51 384.
52 Package textcomp Info: Setting qhv sub-encoding to TS1/0 on input line
53 385.
54 Package textcomp Info: Setting qag sub-encoding to TS1/0 on input line
55 386.
56 Package textcomp Info: Setting qbk sub-encoding to TS1/0 on input line
57 387.
58
59
60
61
62
63
64
65

1
2
3
4 Package textcomp Info: Setting qcr sub-encoding to TS1/0 on input line
5 388.
6 Package textcomp Info: Setting qcs sub-encoding to TS1/0 on input line
7 389.
8 Package textcomp Info: Setting qpl sub-encoding to TS1/0 on input line
9 390.
10 Package textcomp Info: Setting qtm sub-encoding to TS1/0 on input line
11 391.
12 Package textcomp Info: Setting qzc sub-encoding to TS1/0 on input line
13 392.
14 Package textcomp Info: Setting qhvc sub-encoding to TS1/0 on input line
15 393.
16 Package textcomp Info: Setting futs sub-encoding to TS1/4 on input line
17 394.
18 Package textcomp Info: Setting futx sub-encoding to TS1/4 on input line
19 395.
20 Package textcomp Info: Setting futj sub-encoding to TS1/4 on input line
21 396.
22 Package textcomp Info: Setting hlh sub-encoding to TS1/3 on input line
23 397.
24 Package textcomp Info: Setting hls sub-encoding to TS1/3 on input line
25 398.
26 Package textcomp Info: Setting hlst sub-encoding to TS1/3 on input line
27 399.
28 Package textcomp Info: Setting hlct sub-encoding to TS1/5 on input line
29 400.
30 Package textcomp Info: Setting hlx sub-encoding to TS1/5 on input line
31 401.
32 Package textcomp Info: Setting hlce sub-encoding to TS1/5 on input line
33 402.
34 Package textcomp Info: Setting hlcn sub-encoding to TS1/5 on input line
35 403.
36 Package textcomp Info: Setting hlcv sub-encoding to TS1/5 on input line
37 404.
38 Package textcomp Info: Setting hlcf sub-encoding to TS1/5 on input line
39 405.
40 Package textcomp Info: Setting pplx sub-encoding to TS1/3 on input line
41 406.
42 Package textcomp Info: Setting pplj sub-encoding to TS1/3 on input line
43 407.
44 Package textcomp Info: Setting ptmx sub-encoding to TS1/4 on input line
45 408.
46 Package textcomp Info: Setting ptmj sub-encoding to TS1/4 on input line
47 409.
48) (c:/TeXLive/2018/texmf-dist/tex/latex/was/gensymb.sty
49 Package: gensymb 2003/07/02 v1.0 (WaS)
50) (c:/TeXLive/2018/texmf-dist/tex/latex/adjustbox/adjustbox.sty
51 Package: adjustbox 2018/04/08 v1.1 Adjusting TeX boxes (trim, clip, ...)
52 (c:/TeXLive/2018/texmf-dist/tex/latex/xkeyval/xkeyval.sty
53 Package: xkeyval 2014/12/03 v2.7a package option processing (HA)
54 (c:/TeXLive/2018/texmf-dist/tex/generic/xkeyval/xkeyval.tex
55 (c:/TeXLive/2018/te
56 xmf-dist/tex/generic/xkeyval/xkvutils.tex
57 \XKV@toks=\toks22
58
59
60
61
62
63
64
65

```

1
2
3
4 \XKV@tempa@toks=\toks23
5 )
6 \XKV@depth=\count120
7 File: xkeyval.tex 2014/12/03 v2.7a key=value parser (HA)
8 )) (c:/TeXLive/2018/texmf-dist/tex/latex/adjustbox/adjcalc.sty
9 Package: adjcalc 2012/05/16 v1.1 Provides advanced setlength with
10 multiple back
11 -ends (calc, etex, pgfmath)
12 ) (c:/TeXLive/2018/texmf-dist/tex/latex/adjustbox/trimclip.sty
13 Package: trimclip 2018/04/08 v1.1 Trim and clip general TeX material
14 (c:/TeXLive/2018/texmf-dist/tex/latex/collectbox/collectbox.sty
15 Package: collectbox 2012/05/17 v0.4b Collect macro arguments as boxes
16 \collectedbox=\box32
17 )
18 )
19 \tc@llx=\dimen128
20 \tc@lly=\dimen129
21 \tc@urx=\dimen130
22 \tc@ury=\dimen131
23 Package trimclip Info: Using driver 'tc-pdftex.def'.
24 (c:/TeXLive/2018/texmf-dist/tex/latex/adjustbox/tc-pdftex.def
25 File: tc-pdftex.def 2018/04/08 v2.1 Clipping driver for pdftex
26 ))
27 \adjustbox@Width=\dimen132
28 \adjustbox@Height=\dimen133
29 \adjustbox@Depth=\dimen134
30 \adjustbox@Totalheight=\dimen135
31 \adjustbox@pwidth=\dimen136
32 \adjustbox@pheight=\dimen137
33 \adjustbox@pdepth=\dimen138
34 \adjustbox@ptotalheight=\dimen139
35 (c:/TeXLive/2018/texmf-dist/tex/latex/ifoddpages/ifoddpages.sty
36 Package: ifoddpages 2016/04/23 v1.1 Conditionals for odd/even page
37 detection
38 \c@checkoddpages=\count121
39 ) (c:/TeXLive/2018/texmf-dist/tex/latex/varwidth/varwidth.sty
40 Package: varwidth 2009/03/30 ver 0.92; Variable-width minipages
41 \@vwid@box=\box33
42 \sift@deathcycles=\count122
43 \@vwid@loff=\dimen140
44 \@vwid@roff=\dimen141
45 )) (c:/TeXLive/2018/texmf-dist/tex/latex/graphics/color.sty
46 Package: color 2016/07/10 v1.1e Standard LaTeX Color (DPC)
47 (c:/TeXLive/2018/texmf-dist/tex/latex/graphics-cfg/color.cfg
48 File: color.cfg 2016/01/02 v1.6 sample color configuration
49 )
50 Package color Info: Driver file: pdftex.def on input line 147.
51 ) (c:/TeXLive/2018/texmf-dist/tex/latex/xcolor/xcolor.sty
52 Package: xcolor 2016/05/11 v2.12 LaTeX color extensions (UK)
53 (c:/TeXLive/2018/texmf-dist/tex/latex/graphics-cfg/color.cfg
54 File: color.cfg 2016/01/02 v1.6 sample color configuration
55 )
56 Package xcolor Info: Driver file: pdftex.def on input line 225.
57 LaTeX Info: Redefining \color on input line 709.
58
59
60
61
62
63
64
65

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

```
Package xcolor Info: Model `cmy' substituted by `cmy0' on input line
1348.
Package xcolor Info: Model `hsb' substituted by `rgb' on input line 1352.
Package xcolor Info: Model `RGB' extended on input line 1364.
Package xcolor Info: Model `HTML' substituted by `rgb' on input line
1366.
Package xcolor Info: Model `Hsb' substituted by `hsb' on input line 1367.
Package xcolor Info: Model `tHsb' substituted by `hsb' on input line
1368.
Package xcolor Info: Model `HSB' substituted by `hsb' on input line 1369.
Package xcolor Info: Model `Gray' substituted by `gray' on input line
1370.
Package xcolor Info: Model `wave' substituted by `hsb' on input line
1371.
(c:/TeXLive/2018/texmf-dist/tex/latex/graphics/dvipsnam.def
File: dvipsnam.def 2016/06/17 v3.0m Driver-dependent file (DPC,SPQR)
) (c:/TeXLive/2018/texmf-dist/tex/latex/hyperref/hyperref.sty
Package: hyperref 2018/02/06 v6.86b Hypertext links for LaTeX
(c:/TeXLive/2018/texmf-dist/tex/generic/oberdiek/hobsub-hyperref.sty
Package: hobsub-hyperref 2016/05/16 v1.14 Bundle oberdiek, subset
hyperref (HO)

(c:/TeXLive/2018/texmf-dist/tex/generic/oberdiek/hobsub-generic.sty
Package: hobsub-generic 2016/05/16 v1.14 Bundle oberdiek, subset generic
(HO)
Package: hobsub 2016/05/16 v1.14 Construct package bundles (HO)
Package: infwarerr 2016/05/16 v1.4 Providing info/warning/error messages
(HO)
Package: ltxcmds 2016/05/16 v1.23 LaTeX kernel commands for general use
(HO)
Package: ifluatex 2016/05/16 v1.4 Provides the ifluatex switch (HO)
Package ifluatex Info: LuaTeX not detected.
Package: ifvtex 2016/05/16 v1.6 Detect VTeX and its facilities (HO)
Package ifvtex Info: VTeX not detected.
Package: intcalc 2016/05/16 v1.2 Expandable calculations with integers
(HO)
Package: ifpdf 2017/03/15 v3.2 Provides the ifpdf switch
Package: etexcmds 2016/05/16 v1.6 Avoid name clashes with e-TeX commands
(HO)
Package etexcmds Info: Could not find \expanded.
(etexcmds)          That can mean that you are not using pdfTeX 1.50
or
(etexcmds)          that some package has redefined \expanded.
(etexcmds)          In the latter case, load this package earlier.
Package: kvsetkeys 2016/05/16 v1.17 Key value parser (HO)
Package: kvdefinekeys 2016/05/16 v1.4 Define keys (HO)
Package: pdftexcmds 2018/01/30 v0.27 Utility functions of pdfTeX for
LuaTeX (HO
)
Package pdftexcmds Info: LuaTeX not detected.
Package pdftexcmds Info: \pdf@primitive is available.
Package pdftexcmds Info: \pdf@ifprimitive is available.
Package pdftexcmds Info: \pdfdraftmode found.
```

```
1
2
3
4 Package: pdfescape 2016/05/16 v1.14 Implements pdfTeX's escape features
5 (HO)
6 Package: bigintcalc 2016/05/16 v1.4 Expandable calculations on big
7 integers (HO
8 )
9 Package: bitset 2016/05/16 v1.2 Handle bit-vector datatype (HO)
10 Package: uniquecounter 2016/05/16 v1.3 Provide unlimited unique counter
11 (HO)
12 )
13 Package hobsub Info: Skipping package `hobsub' (already loaded).
14 Package: letltxmacro 2016/05/16 v1.5 Let assignment for LaTeX macros (HO)
15 Package: hopatch 2016/05/16 v1.3 Wrapper for package hooks (HO)
16 Package: xcolor-patch 2016/05/16 xcolor patch
17 Package: atveryend 2016/05/16 v1.9 Hooks at the very end of document (HO)
18 Package atveryend Info: \enddocument detected (standard20110627).
19 Package: atbegshi 2016/06/09 v1.18 At begin shipout hook (HO)
20 Package: refcount 2016/05/16 v3.5 Data extraction from label references
21 (HO)
22 )
23 Package: hycolor 2016/05/16 v1.8 Color options for hyperref/bookmark (HO)
24 ) (c:/TeXLive/2018/texmf-dist/tex/generic/ifxetex/ifxetex.sty
25 Package: ifxetex 2010/09/12 v0.6 Provides ifxetex conditional
26 ) (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/auxhook.sty
27 Package: auxhook 2016/05/16 v1.4 Hooks for auxiliary files (HO)
28 ) (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/kvoptions.sty
29 Package: kvoptions 2016/05/16 v3.12 Key value format for package options
30 (HO)
31 )
32 \@linkdim=\dimen142
33 \Hy@linkcounter=\count123
34 \Hy@pagecounter=\count124
35 (c:/TeXLive/2018/texmf-dist/tex/latex/hyperref/pdflenc.def
36 File: pdlenc.def 2018/02/06 v6.86b Hyperref: PDFDocEncoding definition
37 (HO)
38 Now handling font encoding PD1 ...
39 ... no UTF-8 mapping file for font encoding PD1
40 )
41 \Hy@SavedSpaceFactor=\count125
42 (c:/TeXLive/2018/texmf-dist/tex/latex/latexconfig/hyperref.cfg
43 File: hyperref.cfg 2002/06/06 v1.2 hyperref configuration of TeXLive
44 )
45 Package hyperref Info: Hyper figures OFF on input line 4509.
46 Package hyperref Info: Link nesting OFF on input line 4514.
47 Package hyperref Info: Hyper index ON on input line 4517.
48 Package hyperref Info: Plain pages OFF on input line 4524.
49 Package hyperref Info: Backreferencing OFF on input line 4529.
50 Package hyperref Info: Implicit mode ON; LaTeX internals redefined.
51 Package hyperref Info: Bookmarks ON on input line 4762.
52 \c@Hy@tempcnt=\count126
53 (c:/TeXLive/2018/texmf-dist/tex/latex/url/url.sty
54 \Urlmuskip=\muskip11
55 Package: url 2013/09/16 ver 3.4 Verb mode for urls, etc.
56 )
57 LaTeX Info: Redefining \url on input line 5115.
58 \XeTeXLinkMargin=\dimen143
59
60
61
62
63
64
65
```

1
2
3
4 \Fld@menulength=\count127
5 \Field@Width=\dimen144
6 \Fld@charsize=\dimen145
7 Package hyperref Info: Hyper figures OFF on input line 6369.
8 Package hyperref Info: Link nesting OFF on input line 6374.
9 Package hyperref Info: Hyper index ON on input line 6377.
10 Package hyperref Info: backreferencing OFF on input line 6384.
11 Package hyperref Info: Link coloring OFF on input line 6389.
12 Package hyperref Info: Link coloring with OCG OFF on input line 6394.
13 Package hyperref Info: PDF/A mode OFF on input line 6399.
14 LaTeX Info: Redefining \ref on input line 6439.
15 LaTeX Info: Redefining \pageref on input line 6443.
16 \Hy@abspage=\count128
17 \c@Item=\count129
18 \c@Hfootnote=\count130
19)
20
21 Package hyperref Info: Driver (autodetected): hpdftex.
22 (c:/TeXLive/2018/texmf-dist/tex/latex/hyperref/hpdftex.def
23 File: hpdftex.def 2018/02/06 v6.86b Hyperref driver for pdfTeX
24 \Fld@listcount=\count131
25 \c@bookmark@seq@number=\count132
26 (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/rerunfilecheck.sty
27 Package: rerunfilecheck 2016/05/16 v1.8 Rerun checks for auxiliary files
28 (HO)
29 Package uniquecounter Info: New unique counter `rerunfilecheck' on input
30 line 2
31 82.
32)
33 \Hy@SectionHShift=\skip46
34) (c:/TeXLive/2018/texmf-dist/tex/latex/booktabs/booktabs.sty
35 Package: booktabs 2016/04/27 v1.618033 publication quality tables
36 \heavyrulewidth=\dimen146
37 \lightrulewidth=\dimen147
38 \cmidrulewidth=\dimen148
39 \belowrulesep=\dimen149
40 \belowbottomsep=\dimen150
41 \aboverulesep=\dimen151
42 \abovetopsep=\dimen152
43 \cmidrulesep=\dimen153
44 \cmidrulekern=\dimen154
45 \defaultaddspace=\dimen155
46 \@cmidla=\count133
47 \@cmidlb=\count134
48 \@aboverulesep=\dimen156
49 \@belowrulesep=\dimen157
50 \@thisruleclass=\count135
51 \@lastruleclass=\count136
52 \@thisrulewidth=\dimen158
53) (c:/TeXLive/2018/texmf-dist/tex/latex/caption/subcaption.sty
54 Package: subcaption 2018/05/01 v1.1-162 Sub-captions (AR)
55 (c:/TeXLive/2018/texmf-dist/tex/latex/caption/caption.sty
56 Package: caption 2018/05/01 v3.3-147 Customizing captions (AR)
57 (c:/TeXLive/2018/texmf-dist/tex/latex/caption/caption3.sty
58 Package: caption3 2018/05/27 v1.8a caption3 kernel (AR)
59
60
61
62
63
64
65

```

1
2
3
4 Package caption3 Info: TeX engine: e-TeX on input line 64.
5 \captionmargin=\dimen159
6 \captionmargin@=\dimen160
7 \captionwidth=\dimen161
8 \caption@tempdima=\dimen162
9 \caption@indent=\dimen163
10 \caption@parindent=\dimen164
11 \caption@hangindent=\dimen165
12 Package caption Info: Unknown document class (or package),
13 (caption)          standard defaults will be used.
14 )
15
16
17 Package caption Warning: Unsupported document class (or package)
18 detected,
19 (caption)          usage of the caption package is not recommended.
20 See the caption package documentation for explanation.
21
22 Package caption Info: \@makecaption = \long macro:#1#2->\captionstyle
23 \ifx \@ca
24 ptype \fig@type \vskip \figcapgap \fi \setbox \@tempboxa \hbox
25 {\floatlegendst
26 yle #1\floatcounterend }\capstrut #2}\ifdim \wd \@tempboxa >\hsize
27 {\floatlegen
28 dstyle #1\floatcounterend }\capstrut #2\par \else \hbox to\hsize
29 {\leftlegendgl
30 ue \unhbox \@tempboxa \hfil }\fi \ifx \@captive \fig@type \else \vskip
31 \tabcapg
32 ap \fi .
33 \c@ContinuedFloat=\count137
34 Package caption Info: hyperref package is loaded.
35 )
36 \c@subfigure=\count138
37 \c@subtable=\count139
38 ) (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/bookmark.sty
39 Package: bookmark 2016/05/17 v1.26 PDF bookmarks (HO)
40 (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/bkm-pdf.tex.def
41 File: bkm-pdf.tex.def 2016/05/17 v1.26 bookmark driver for pdfTeX (HO)
42 \BKM@id=\count140
43 )) (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/mathptmx.sty
44 Package: mathptmx 2005/04/12 PSNFSS-v9.2a Times w/ Math, improved (SPQR,
45 WaS)
46
47 LaTeX Font Info:   Redeclaring symbol font `operators' on input line 28.
48 LaTeX Font Info:   Overwriting symbol font `operators' in version
49 `normal'
50 (Font)
51 OT1/cmr/m/n --> OT1/ztmcm/m/n on input line 28.
52 LaTeX Font Info:   Overwriting symbol font `operators' in version `bold'
53 (Font)
54 OT1/cmr/bx/n --> OT1/ztmcm/m/n on input line 28.
55 LaTeX Font Info:   Redeclaring symbol font `letters' on input line 29.
56 LaTeX Font Info:   Overwriting symbol font `letters' in version `normal'
57 (Font)
58 OML/cmm/m/it --> OML/ztmcm/m/it on input line 29.
59 LaTeX Font Info:   Overwriting symbol font `letters' in version `bold'
60 (Font)
61 OML/cmm/b/it --> OML/ztmcm/m/it on input line 29.
62 LaTeX Font Info:   Redeclaring symbol font `symbols' on input line 30.
63 LaTeX Font Info:   Overwriting symbol font `symbols' in version `normal'
64
65

```

```

1
2
3
4      (Font)                OMS/cmsy/m/n --> OMS/ztmcm/m/n on input line 30.
5 LaTeX Font Info:          Overwriting symbol font `symbols' in version `bold'
6      (Font)                OMS/cmsy/b/n --> OMS/ztmcm/m/n on input line 30.
7 LaTeX Font Info:          Redeclaring symbol font `largesymbols' on input line
8 31.
9 LaTeX Font Info:          Overwriting symbol font `largesymbols' in version
10 `normal'
11      (Font)                OMX/cmex/m/n --> OMX/ztmcm/m/n on input line 31.
12 LaTeX Font Info:          Overwriting symbol font `largesymbols' in version
13 `bold'
14      (Font)                OMX/cmex/m/n --> OMX/ztmcm/m/n on input line 31.
15 \symboldef=\mathgroup6
16 \symitalic=\mathgroup7
17 LaTeX Font Info:          Redeclaring math alphabet \mathbf on input line 34.
18 LaTeX Font Info:          Overwriting math alphabet ``\mathbf' in version
19 `normal'
20      (Font)                OT1/cmr/bx/n --> OT1/ptm/bx/n on input line 34.
21 LaTeX Font Info:          Overwriting math alphabet ``\mathbf' in version `bold'
22      (Font)                OT1/cmr/bx/n --> OT1/ptm/bx/n on input line 34.
23 LaTeX Font Info:          Redeclaring math alphabet \mathit on input line 35.
24 LaTeX Font Info:          Overwriting math alphabet ``\mathit' in version
25 `normal'
26      (Font)                OT1/cmr/m/it --> OT1/ptm/m/it on input line 35.
27 LaTeX Font Info:          Overwriting math alphabet ``\mathit' in version `bold'
28      (Font)                OT1/cmr/bx/it --> OT1/ptm/m/it on input line 35.
29 LaTeX Info: Redefining \hbar on input line 50.
30 ) (c:/TeXLive/2018/texmf-dist/tex/latex/float/float.sty
31 Package: float 2001/11/08 v1.3d Float enhancements (AL)
32 \c@float@type=\count141
33 \float@exts=\toks24
34 \float@box=\box34
35 \@float@everytoks=\toks25
36 \@floatcapt=\box35
37 ) (c:/TeXLive/2018/texmf-dist/tex/latex/multirow/multirow.sty
38 Package: multirow 2016/11/25 v2.2 Span multiple rows of a table
39 \multirow@colwidth=\skip47
40 \multirow@cntb=\count142
41 \multirow@dima=\skip48
42 \bigstrutjot=\dimen166
43 ) (c:/TeXLive/2018/texmf-dist/tex/latex/base/latexsym.sty
44 Package: latexsym 1998/08/17 v2.2e Standard LaTeX package (lasy symbols)
45 \symlasy=\mathgroup8
46 LaTeX Font Info:          Overwriting symbol font `lasy' in version `bold'
47      (Font)                U/lasy/m/n --> U/lasy/b/n on input line 52.
48 ) (c:/TeXLive/2018/texmf-dist/tex/latex/fancybox/fancybox.sty
49 Package: fancybox 2010/05/15 1.4
50 Style option: `fancybox' v1.4 <2010/05/15> (tvz)
51 \@fancybox=\box36
52 \shadowsize=\dimen167
53 \@Sbox=\box37
54 \do@VerbBox=\toks26
55 \the@fancyput=\toks27
56 \this@fancyput=\toks28
57 \EndVerbatimTokens=\toks29
58
59
60
61
62
63
64
65

```

```

1
2
3
4 \Verbatim@Outfile=\write3
5 \Verbatim@Infile=\read1
6 ) (c:/TeXLive/2018/texmf-dist/tex/latex/lipsum/lipsum.sty
7 Package: lipsum 2014/07/27 v1.3 150 paragraphs of Lorem Ipsum dummy text
8 \c@lips@count=\count143
9 ) (c:/TeXLive/2018/texmf-dist/tex/latex/tools/afterpage.sty
10 Package: afterpage 2014/10/28 v1.08 After-Page Package (DPC)
11 \AP@output=\toks30
12 \AP@partial=\box38
13 \AP@footins=\box39
14 ) (c:/TeXLive/2018/texmf-dist/tex/latex/acronym/acronym.sty
15 Package: acronym 2015/03/21 v1.41 Support for acronyms (Tobias Oetiker)
16 (c:/TeXLive/2018/texmf-dist/tex/latex/bigfoot/suffix.sty
17 Package: suffix 2006/07/15 1.5a Variant command support
18 ) (c:/TeXLive/2018/texmf-dist/tex/generic/xstring/xstring.sty
19 (c:/TeXLive/2018/
20 texmf-dist/tex/generic/xstring/xstring.tex
21 \@xs@message=\write4
22 \integerpart=\count144
23 \decimalpart=\count145
24 )
25 Package: xstring 2013/10/13 v1.7c String manipulations (C Tellechea)
26 )
27 \AC@clearlist=\toks31
28 ) (c:/TeXLive/2018/texmf-dist/tex/generic/ulem/ulem.sty
29 \UL@box=\box40
30 \UL@hyphenbox=\box41
31 \UL@skip=\skip49
32 \UL@hook=\toks32
33 \UL@height=\dimen168
34 \UL@pe=\count146
35 \UL@pixel=\dimen169
36 \ULC@box=\box42
37 Package: ulem 2012/05/18
38 \ULdepth=\dimen170
39 ) (./MVA_journal.aux)
40 \openout1 = `MVA_journal.aux'.
41
42
43

```

```

44 LaTeX Font Info: Checking defaults for OML/cmm/m/it on input line 92.
45 LaTeX Font Info: ... okay on input line 92.
46 LaTeX Font Info: Checking defaults for T1/cmr/m/n on input line 92.
47 LaTeX Font Info: ... okay on input line 92.
48 LaTeX Font Info: Checking defaults for OT1/cmr/m/n on input line 92.
49 LaTeX Font Info: ... okay on input line 92.
50 LaTeX Font Info: Checking defaults for OMS/cmsy/m/n on input line 92.
51 LaTeX Font Info: ... okay on input line 92.
52 LaTeX Font Info: Checking defaults for OMX/cmex/m/n on input line 92.
53 LaTeX Font Info: ... okay on input line 92.
54 LaTeX Font Info: Checking defaults for U/cmr/m/n on input line 92.
55 LaTeX Font Info: ... okay on input line 92.
56 LaTeX Font Info: Checking defaults for TS1/cmr/m/n on input line 92.
57 LaTeX Font Info: ... okay on input line 92.
58 LaTeX Font Info: Checking defaults for PD1/pdf/m/n on input line 92.
59 LaTeX Font Info: ... okay on input line 92.
60
61
62
63
64
65

```



```

1
2
3
4 LaTeX Font Info: Try loading font information for OT1+ptm on input
5 line 92.
6 (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/otlptm.fd
7 File: otlptm.fd 2001/06/04 font definitions for OT1/ptm.
8 ) (c:/TeXLive/2018/texmf-dist/tex/context/base/mkii/supp-pdf.mkii
9 [Loading MPS to PDF converter (version 2006.09.02).]
10 \scratchcounter=\count147
11 \scratchdimen=\dimen171
12 \scratchbox=\box43
13 \nofMPsegments=\count148
14 \nofMParguments=\count149
15 \everyMPshowfont=\toks33
16 \MPscratchCnt=\count150
17 \MPscratchDim=\dimen172
18 \MPnumerator=\count151
19 \makeMPintoPDFobject=\count152
20 \everyMPtoPDFconversion=\toks34
21 ) (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/epstopdf-base.sty
22 Package: epstopdf-base 2016/05/15 v2.6 Base part for package epstopdf
23 (c:/TeXLive/2018/texmf-dist/tex/latex/oberdiek/grfext.sty
24 Package: grfext 2016/05/16 v1.2 Manage graphics extensions (HO)
25 )
26 Package epstopdf-base Info: Redefining graphics rule for '.eps' on input
27 line 4
28 38.
29 Package grfext Info: Graphics extension search list:
30 (grfext)
31 [.pdf,.png,.jpg,.mps,.jpeg,.jbig2,.jb2,.PDF,.PNG,.JPG,.JPE
32 G,.JBIG2,.JB2,.eps]
33 (grfext) \AppendGraphicsExtensions on input line 456.
34 (c:/TeXLive/2018/texmf-dist/tex/latex/latexconfig/epstopdf-sys.cfg
35 File: epstopdf-sys.cfg 2010/07/13 v1.3 Configuration of (r)epstopdf for
36 TeX Liv
37 e
38 ))
39 \symgns@font=\mathgroup9
40 LaTeX Font Info: Overwriting symbol font 'gns@font' in version 'bold'
41 (Font) TS1/ptm/m/n --> TS1/ptm/bx/n on input line 92.
42 Package gensymb Info: Math companion symbols declared on input line 92.
43 LaTeX Info: Redefining \degree on input line 92.
44 LaTeX Info: Redefining \celsius on input line 92.
45 Package gensymb Info: Using text companion symbols for \degree, \celsius
46 and \p
47 erthousand on input line 92.
48 LaTeX Info: Redefining \ohm on input line 92.
49 Package gensymb Info: Using \textohm for \ohm on input line 92.
50 Package gensymb Info: Using \textmu for \micro on input line 92.
51 \AtBeginShipoutBox=\box44
52 Package hyperref Info: Link coloring OFF on input line 92.
53 (c:/TeXLive/2018/texmf-dist/tex/latex/hyperref/nameref.sty
54 Package: nameref 2016/05/21 v2.44 Cross-referencing by name of section
55 (c:/TeXLive/2018/texmf-dist/tex/generic/oberdiek/gettitlestring.sty
56 Package: gettitlestring 2016/05/16 v1.5 Cleanup title references (HO)
57 )
58
59
60
61
62
63
64
65

```

```
1
2
3
4 \c@section@level=\count153
5 )
6 LaTeX Info: Redefining \ref on input line 92.
7 LaTeX Info: Redefining \pageref on input line 92.
8 LaTeX Info: Redefining \nameref on input line 92.
9 Package caption Info: Begin \AtBeginDocument code.
10 Package caption Info: float package is loaded.
11 Package caption Info: End \AtBeginDocument code.
12 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <10> not available
13 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
14 114.
15 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <16> not available
16 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
17 114.
18
19
20 Package mathptmx Warning: There are no bold math fonts on input line 114.
21
22 LaTeX Font Info: Try loading font information for OT1+ztmcm on input
23 line 11
24 4.
25 (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/otlztmcm.fd
26 File: otlztmcm.fd 2000/01/03 Fontinst v1.801 font definitions for
27 OT1/ztmcm.
28 )
29 LaTeX Font Info: Try loading font information for OML+ztmcm on input
30 line 11
31 4.
32 (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/omlztmcm.fd
33 File: omlztmcm.fd 2000/01/03 Fontinst v1.801 font definitions for
34 OML/ztmcm.
35 )
36 LaTeX Font Info: Try loading font information for OMS+ztmcm on input
37 line 11
38 4.
39 (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/omsztmcm.fd
40 File: omsztmcm.fd 2000/01/03 Fontinst v1.801 font definitions for
41 OMS/ztmcm.
42 )
43 LaTeX Font Info: Try loading font information for OMX+ztmcm on input
44 line 11
45 4.
46 (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/omxztmcm.fd
47 File: omxztmcm.fd 2000/01/03 Fontinst v1.801 font definitions for
48 OMX/ztmcm.
49 )
50
51 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <7.4> not available
52 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
53 114.
54 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <6> not available
55 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
56 114.
57 LaTeX Font Info: Try loading font information for TS1+ptm on input
58 line 114.
59
60
61
62
63
64
65
```

1
2
3
4 (c:/TeXLive/2018/texmf-dist/tex/latex/psnfss/tslptm.fd
5 File: tslptm.fd 2001/06/04 font definitions for TS1/ptm.
6)
7 LaTeX Font Info: Calculating math sizes for size <8.5> on input line
8 114.
9 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <8.5> not available
10 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
11 114.
12 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <6.29004> not
13 available
14 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
15 114.
16 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <5.10005> not
17 available
18 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
19 114.
20
21
22 Overfull \hbox (2.55328pt too wide) in paragraph at lines 115--117
23 \OT1/ptm/m/n/10 ing night-time us-ing vis-i-ble cam-era are re-ly-ing on
24 the am
25 ount
26 []
27
28
29 Overfull \hbox (2.22363pt too wide) in paragraph at lines 115--117
30 \OT1/ptm/m/n/10 ad-di-tion to su-pe-rior quan-ti-ta-tive per-for-mance of
31 the p
32 ro-posed
33 []
34
35
36 Overfull \hbox (7.2433pt too wide) in paragraph at lines 115--117
37 \OT1/ptm/m/n/10 method in terms of no-reference qual-ity met-rics such as
38 NIQE,
39
40
41 []
42
43 <v_238.png, id=4, 321.2pt x 240.9pt>
44 File: v_238.png Graphic file (type png)
45 <use v_238.png>
46 Package pdftex.def Info: v_238.png used on input line 124.
47 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
48 <o_v_06.png, id=5, 321.2pt x 240.9pt>
49 File: o_v_06.png Graphic file (type png)
50 <use o_v_06.png>
51 Package pdftex.def Info: o_v_06.png used on input line 125.
52 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
53 <v_245.png, id=6, 321.2pt x 240.9pt>
54 File: v_245.png Graphic file (type png)
55 <use v_245.png>
56 Package pdftex.def Info: v_245.png used on input line 125.
57 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
58 <238.png, id=7, 321.2pt x 240.9pt>
59 File: 238.png Graphic file (type png)
60
61
62
63
64
65

```

1
2
3
4 <use 238.png>
5 Package pdftex.def Info: 238.png used on input line 129.
6 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
7 <o_t_06.png, id=8, 321.2pt x 240.9pt>
8 File: o_t_06.png Graphic file (type png)
9 <use o_t_06.png>
10 Package pdftex.def Info: o_t_06.png used on input line 130.
11 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
12 <245.png, id=9, 321.2pt x 240.9pt>
13 File: 245.png Graphic file (type png)
14 <use 245.png>
15 Package pdftex.def Info: 245.png used on input line 131.
16 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
17 <p5_o_5_01.png, id=10, 321.2pt x 240.9pt>
18 File: p5_o_5_01.png Graphic file (type png)
19 <use p5_o_5_01.png>
20 Package pdftex.def Info: p5_o_5_01.png used on input line 135.
21 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
22 <p5_o_5_06.png, id=11, 321.2pt x 240.9pt>
23 File: p5_o_5_06.png Graphic file (type png)
24 <use p5_o_5_06.png>
25 Package pdftex.def Info: p5_o_5_06.png used on input line 135.
26 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
27 <p5_o_5_02.png, id=12, 321.2pt x 240.9pt>
28 File: p5_o_5_02.png Graphic file (type png)
29 <use p5_o_5_02.png>
30 Package pdftex.def Info: p5_o_5_02.png used on input line 135.
31 (pdftex.def) Requested size: 76.82pt x 71.13104pt.
32
33
34 Overfull \hbox (5.37395pt too wide) in paragraph at lines 147--148
35 \OT1/ptm/m/n/10 Many prob-blems in com-puter vi-sion have been posed as
36 image-
37 []
38
39
40
41 Underfull \vbox (badness 10000) has occurred while \output is active []
42
43 [l{c:/TeXLive/2018/texmf-var/fonts/map/pdftex/updmap/pdftex.map}]
44
45
46 <./v_238.png (PNG copy)> <./o_v_06.png (PNG copy)> <./v_245.png (PNG
47 copy)> <./
48 /238.png> <./o_t_06.png> <./245.png> <./p5_o_5_01.png (PNG copy)>
49 <./p5_o_5_06.
50 png (PNG copy)> <./p5_o_5_02.png (PNG copy)>]
51 Overfull \hbox (9.8935pt too wide) in paragraph at lines 149--154
52 []\OT1/ptm/m/n/10 The vis-i-ble cam-eras are op-er-ated un-der the ex-
53 ter-nal s
54 ources
55 []
56
57
58
59 Overfull \hbox (0.66309pt too wide) in paragraph at lines 155--162
60
61
62
63
64
65

```

1
2
3
4 \OT1/ptm/m/n/10 cally for the night-time. Tra-di-tion-ally, this prob-lem
5 was t
6 ack-
7 []
8
9
10 Underfull \vbox (badness 1297) has occurred while \output is active []
11
12
13 Underfull \vbox (badness 2426) has occurred while \output is active []
14
15
16 [2]
17 Overfull \hbox (1.59373pt too wide) in paragraph at lines 179--182
18 \OT1/ptm/m/n/10 quired in the en-vi-ron-ment of to-tal dark-ness which is
19 more
20 []
21
22
23 Overfull \hbox (7.91307pt too wide) in paragraph at lines 194--195
24 \OT1/ptm/m/n/10 The para-met-ric based meth-ods es-ti-mate the chromi-
25 nance val
26 ue
27 []
28
29
30 Overfull \hbox (0.47299pt too wide) in paragraph at lines 194--195
31 \OT1/ptm/m/n/10 train-ing datasets or col-or-ful ref-er-ence im-ages with
32 pixel
33 wise
34 []
35
36
37 [3]
38 Underfull \vbox (badness 2426) has occurred while \output is active []
39
40
41 Overfull \hbox (12.543pt too wide) in paragraph at lines 214--216
42 []\OT1/ptm/m/n/10 A pre-processing mod-ule called Adap-tive His-togram
43 Equal-
44 []
45
46
47 Overfull \hbox (1.67354pt too wide) in paragraph at lines 214--216
48 \OT1/ptm/m/n/10 the same im-age. The ef-fec-tive-ness of such pre-
49 processing
50 []
51
52 <arch.png, id=199, 949.5475pt x 477.785pt>
53 File: arch.png Graphic file (type png)
54 <use arch.png>
55 Package pdftex.def Info: arch.png used on input line 222.
56 (pdftex.def) Requested size: 503.25778pt x 253.22484pt.
57
58
59 Overfull \hbox (8.25778pt too wide) in paragraph at lines 222--224
60 [][]
61
62
63
64
65

1
2
3
4 []
5
6 [4]
7 Overfull \hbox (4.54356pt too wide) in paragraph at lines 230--238
8 \OT1/ptm/m/n/10 to use de-fault stride and padding val-ues. Ini-tially
9 Leaky Re
10 LU
11 []
12
13
14
15 Underfull \vbox (badness 10000) has occurred while \output is active []
16
17 <res.png, id=230, 313.77225pt x 265.59225pt>
18 File: res.png Graphic file (type png)
19 <use res.png>
20 Package pdftex.def Info: res.png used on input line 253.
21 (pdftex.def) Requested size: 235.3286pt x 199.19368pt.
22 <dis.png, id=231, 325.81725pt x 124.0635pt>
23 File: dis.png Graphic file (type png)
24 <use dis.png>
25 Package pdftex.def Info: dis.png used on input line 257.
26 (pdftex.def) Requested size: 237.8446pt x 90.56558pt.
27
28 Overfull \hbox (8.53583pt too wide) in paragraph at lines 252--260
29 []\$
30 []
31
32
33
34 Underfull \vbox (badness 10000) has occurred while \output is active []
35
36 [5 <./arch.png>]
37 Overfull \hbox (0.61343pt too wide) in paragraph at lines 268--270
38 \OT1/ptm/m/n/10 gen-er-ate the same la-tent code for cor-re-spond-ing im-
39 ages f
40 rom
41 []
42
43 [6 <./res.png> <./dis.png>]
44 Overfull \hbox (3.19353pt too wide) in paragraph at lines 328--329
45 \OT1/ptm/m/n/10 we have con-ducted se-ries of ex-per-i-ments on dif-fer-
46 ent dat
47 asets
48 []
49
50
51 Overfull \hbox (6.19383pt too wide) in paragraph at lines 355--363
52 \OT1/ptm/m/n/10 pose. Ad-di-tion-ally, the FLIR val-i-da-tion dataset
53 con-tains
54 \$\OT1/ztmcm/m/n/10 6\OML/ztmcm/m/it/10 ; \OT1/ztmcm/m/n/10 860\$
55 []
56
57
58
59 Overfull \hbox (4.39311pt too wide) in paragraph at lines 355--363
60
61
62
63
64
65

1
2
3
4 \OT1/ptm/m/n/10 un-der to-tal dark-ness at night-time with-out any ar-ti-
5 fi-cia
6 l and/or
7 []
8
9 [7]
10 <k_t_11.png, id=284, 642.4pt x 513.92pt>
11 File: k_t_11.png Graphic file (type png)
12 <use k_t_11.png>
13 Package pdftex.def Info: k_t_11.png used on input line 367.
14 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
15 <f_t_06.png, id=285, 642.4pt x 513.92pt>
16 File: f_t_06.png Graphic file (type png)
17 <use f_t_06.png>
18 Package pdftex.def Info: f_t_06.png used on input line 368.
19 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
20
21
22 Underfull \hbox (badness 10000) in paragraph at lines 367--369
23 [][]
24 []
25
26 <10.png, id=286, 160.6pt x 128.48pt>
27 File: 10.png Graphic file (type png)
28 <use 10.png>
29 Package pdftex.def Info: 10.png used on input line 373.
30 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
31 <5.png, id=287, 160.6pt x 128.48pt>
32 File: 5.png Graphic file (type png)
33 <use 5.png>
34 Package pdftex.def Info: 5.png used on input line 374.
35 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
36
37
38 Underfull \hbox (badness 10000) in paragraph at lines 373--375
39 [][]
40 []
41
42 <k_t_e_11.png, id=288, 642.4pt x 513.92pt>
43 File: k_t_e_11.png Graphic file (type png)
44 <use k_t_e_11.png>
45 Package pdftex.def Info: k_t_e_11.png used on input line 378.
46 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
47 <f_t_e_06.png, id=289, 642.4pt x 513.92pt>
48 File: f_t_e_06.png Graphic file (type png)
49 <use f_t_e_06.png>
50 Package pdftex.def Info: f_t_e_06.png used on input line 379.
51 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
52
53
54 Underfull \hbox (badness 10000) in paragraph at lines 378--380
55 [][]
56 []
57
58 <p5_k_5_06.png, id=290, 642.4pt x 513.92pt>
59 File: p5_k_5_06.png Graphic file (type png)
60 <use p5_k_5_06.png>
61
62
63
64
65

1
2
3
4 Package pdftex.def Info: p5_k_5_06.png used on input line 383.
5 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
6 <p5_f_5_06.png, id=291, 642.4pt x 513.92pt>
7 File: p5_f_5_06.png Graphic file (type png)
8 <use p5_f_5_06.png>
9 Package pdftex.def Info: p5_f_5_06.png used on input line 384.
10 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
11
12 Underfull \hbox (badness 10000) in paragraph at lines 383--385
13 [][]
14 []
15
16
17 <k_v_11.png, id=292, 642.4pt x 513.92pt>
18 File: k_v_11.png Graphic file (type png)
19 <use k_v_11.png>
20 Package pdftex.def Info: k_v_11.png used on input line 388.
21 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
22 <f_v_06.png, id=293, 1806.75pt x 1606.0pt>
23 File: f_v_06.png Graphic file (type png)
24 <use f_v_06.png>
25 Package pdftex.def Info: f_v_06.png used on input line 389.
26 (pdftex.def) Requested size: 98.14474pt x 71.11511pt.
27
28 Underfull \hbox (badness 10000) in paragraph at lines 388--390
29 [][]
30 []
31
32
33 <f_t_08.png, id=294, 642.4pt x 513.92pt>
34 File: f_t_08.png Graphic file (type png)
35 <use f_t_08.png>
36 Package pdftex.def Info: f_t_08.png used on input line 399.
37 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
38 <p2_f_2_08.png, id=295, 160.6pt x 128.48pt>
39 File: p2_f_2_08.png Graphic file (type png)
40 <use p2_f_2_08.png>
41 Package pdftex.def Info: p2_f_2_08.png used on input line 403.
42 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
43 <lrelu_7.png, id=296, 160.6pt x 128.48pt>
44 File: lrelu_7.png Graphic file (type png)
45 <use lrelu_7.png>
46 Package pdftex.def Info: lrelu_7.png used on input line 407.
47 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
48 <c_g_7.png, id=297, 160.6pt x 128.48pt>
49 File: c_g_7.png Graphic file (type png)
50 <use c_g_7.png>
51 Package pdftex.def Info: c_g_7.png used on input line 411.
52 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
53 <c_g_p_7.png, id=298, 160.6pt x 128.48pt>
54 File: c_g_p_7.png Graphic file (type png)
55 <use c_g_p_7.png>
56 Package pdftex.def Info: c_g_p_7.png used on input line 415.
57 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
58 <u_f_08.png, id=299, 160.6pt x 128.48pt>
59 File: u_f_08.png Graphic file (type png)
60
61
62
63
64
65

1
2
3
4 <use u_f_08.png>
5 Package pdftex.def Info: u_f_08.png used on input line 419.
6 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
7 LaTeX Font Info: Font shape `OT1/ptm/bx/n' in size <5> not available
8 (Font) Font shape `OT1/ptm/b/n' tried instead on input line
9 420.
10 <nodc_7.png, id=300, 160.6pt x 128.48pt>
11 File: nodc_7.png Graphic file (type png)
12 <use nodc_7.png>
13 Package pdftex.def Info: nodc_7.png used on input line 423.
14 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
15 <seq_RB_7.png, id=301, 160.6pt x 128.48pt>
16 File: seq_RB_7.png Graphic file (type png)
17 <use seq_RB_7.png>
18 Package pdftex.def Info: seq_RB_7.png used on input line 427.
19 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
20 <prelu_7.png, id=302, 160.6pt x 128.48pt>
21 File: prelu_7.png Graphic file (type png)
22 <use prelu_7.png>
23 Package pdftex.def Info: prelu_7.png used on input line 431.
24 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
25 <f_v_08.png, id=303, 1806.75pt x 1606.0pt>
26 File: f_v_08.png Graphic file (type png)
27 <use f_v_08.png>
28 Package pdftex.def Info: f_v_08.png used on input line 436.
29 (pdftex.def) Requested size: 98.14474pt x 71.11511pt.
30
31
32 Overfull \hbox (2.99374pt too wide) in paragraph at lines 452--453
33 \OT1/ptm/m/n/10 In deep learn-ing, a net-work with-out ac-ti-va-tion
34 func-tion
35 works
36 []
37
38
39 [8]
40 Overfull \hbox (3.94354pt too wide) in paragraph at lines 460--463
41 \OT1/ptm/m/n/10 con-vo-lu-tion, par-al-lel struc-ture of con-vo-lu-tional
42 block
43 s in Res-
44 []
45
46
47 Overfull \hbox (2.9033pt too wide) in paragraph at lines 464--468
48 \OT1/ptm/m/n/10 qual-i-ta-tive and quan-ti-ta-tive as-sess-ments have
49 been per-
50 formed
51 []
52
53 [9 <./k_t_11.png (PNG copy)> <./f_t_06.png> <./10.png (PNG copy)>
54 <./5.png (PNG
55 copy)> <./k_t_e_11.png (PNG copy)> <./f_t_e_06.png (PNG copy)>
56 <./p5_k_5_06.png
57 (PNG copy)> <./p5_f_5_06.png (PNG copy)> <./k_v_11.png (PNG copy)>
58 <./f_v_06.
59
60
61
62
63
64
65

```
1
2
3
4 png (PNG copy)> <./f_t_08.png> <./p2_f_2_08.png (PNG copy)>
5 <./lrelu_7.png (PNG
6 copy)> <./c_g_7.png (PNG copy)> <./c_g_p_7.png (PNG copy)> <./u_f_08.png
7 (PNG
8 copy)> <./nodc_7.png (PNG copy)> <./seq_RB_7.png (PNG copy)>
9 <./prelu_7.png (PN
10 G copy)> <./f_v_08.png (PNG copy)>]
11 <f_t_01.png, id=358, 642.4pt x 513.92pt>
12 File: f_t_01.png Graphic file (type png)
13 <use f_t_01.png>
14 Package pdftex.def Info: f_t_01.png used on input line 472.
15 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
16 <f_t_05.png, id=359, 642.4pt x 513.92pt>
17 File: f_t_05.png Graphic file (type png)
18 <use f_t_05.png>
19 Package pdftex.def Info: f_t_05.png used on input line 473.
20 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
21
22
23 Underfull \hbox (badness 10000) in paragraph at lines 472--474
24 [[]]
25 []
26
27 <pi_f_01.png, id=360, 256.96pt x 256.96pt>
28 File: pi_f_01.png Graphic file (type png)
29 <use pi_f_01.png>
30 Package pdftex.def Info: pi_f_01.png used on input line 477.
31 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
32 <pi_f_05.png, id=361, 256.96pt x 256.96pt>
33 File: pi_f_05.png Graphic file (type png)
34 <use pi_f_05.png>
35 Package pdftex.def Info: pi_f_05.png used on input line 478.
36 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
37
38
39 Underfull \hbox (badness 10000) in paragraph at lines 477--479
40 [[]]
41 []
42
43 <co_f_01.png, id=364, 128.48pt x 128.48pt>
44 File: co_f_01.png Graphic file (type png)
45 <use co_f_01.png>
46 Package pdftex.def Info: co_f_01.png used on input line 482.
47 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
48 <co_f_05.png, id=365, 128.48pt x 128.48pt>
49 File: co_f_05.png Graphic file (type png)
50 <use co_f_05.png>
51 Package pdftex.def Info: co_f_05.png used on input line 483.
52 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
53
54
55 Underfull \hbox (badness 10000) in paragraph at lines 482--484
56 [[]]
57 []
58
59 <m_f_01.png, id=368, 160.6pt x 128.48pt>
60 File: m_f_01.png Graphic file (type png)
61
62
63
64
65
```

1
2
3
4 <use m_f_01.png>
5 Package pdftex.def Info: m_f_01.png used on input line 487.
6 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
7 <m_f_05.png, id=369, 160.6pt x 128.48pt>
8 File: m_f_05.png Graphic file (type png)
9 <use m_f_05.png>
10 Package pdftex.def Info: m_f_05.png used on input line 488.
11 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
12
13 Underfull \hbox (badness 10000) in paragraph at lines 487--489
14 [][]
15 []
16
17
18 <b_f_01.png, id=372, 128.48pt x 128.48pt>
19 File: b_f_01.png Graphic file (type png)
20 <use b_f_01.png>
21 Package pdftex.def Info: b_f_01.png used on input line 492.
22 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
23 <b_f_05.png, id=373, 128.48pt x 128.48pt>
24 File: b_f_05.png Graphic file (type png)
25 <use b_f_05.png>
26 Package pdftex.def Info: b_f_05.png used on input line 493.
27 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
28
29 Underfull \hbox (badness 10000) in paragraph at lines 492--494
30 [][]
31 []
32
33
34 <u_f_01.png, id=376, 160.6pt x 128.48pt>
35 File: u_f_01.png Graphic file (type png)
36 <use u_f_01.png>
37 Package pdftex.def Info: u_f_01.png used on input line 497.
38 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
39 <u_f_05.png, id=377, 160.6pt x 128.48pt>
40 File: u_f_05.png Graphic file (type png)
41 <use u_f_05.png>
42 Package pdftex.def Info: u_f_05.png used on input line 498.
43 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
44
45 Underfull \hbox (badness 10000) in paragraph at lines 497--499
46 [][]
47 []
48
49
50 <d_f_1.png, id=380, 128.48pt x 128.48pt>
51 File: d_f_1.png Graphic file (type png)
52 <use d_f_1.png>
53 Package pdftex.def Info: d_f_1.png used on input line 502.
54 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
55 <d_f_5.png, id=381, 128.48pt x 128.48pt>
56 File: d_f_5.png Graphic file (type png)
57 <use d_f_5.png>
58 Package pdftex.def Info: d_f_5.png used on input line 503.
59 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
60
61
62
63
64
65

1
2
3
4 Underfull \hbox (badness 10000) in paragraph at lines 502--504
5 [][]
6 []
7
8 <c_f_01.png, id=384, 642.4pt x 513.92pt>
9 File: c_f_01.png Graphic file (type png)
10 <use c_f_01.png>
11 Package pdftex.def Info: c_f_01.png used on input line 507.
12 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
13 <c_f_05.png, id=385, 642.4pt x 513.92pt>
14 File: c_f_05.png Graphic file (type png)
15 <use c_f_05.png>
16 Package pdftex.def Info: c_f_05.png used on input line 508.
17 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
18
19
20 Underfull \hbox (badness 10000) in paragraph at lines 507--509
21 [][]
22 []
23
24 <p5_f_5_01.png, id=388, 642.4pt x 513.92pt>
25 File: p5_f_5_01.png Graphic file (type png)
26 <use p5_f_5_01.png>
27 Package pdftex.def Info: p5_f_5_01.png used on input line 512.
28 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
29 <p5_f_5_05.png, id=389, 642.4pt x 513.92pt>
30 File: p5_f_5_05.png Graphic file (type png)
31 <use p5_f_5_05.png>
32 Package pdftex.def Info: p5_f_5_05.png used on input line 513.
33 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
34
35
36 Underfull \hbox (badness 10000) in paragraph at lines 512--514
37 [][]
38 []
39
40 <f_v_01.png, id=390, 1806.75pt x 1606.0pt>
41 File: f_v_01.png Graphic file (type png)
42 <use f_v_01.png>
43 Package pdftex.def Info: f_v_01.png used on input line 517.
44 (pdftex.def) Requested size: 98.14474pt x 71.11511pt.
45 <f_v_05.png, id=391, 1806.75pt x 1606.0pt>
46 File: f_v_05.png Graphic file (type png)
47 <use f_v_05.png>
48 Package pdftex.def Info: f_v_05.png used on input line 518.
49 (pdftex.def) Requested size: 98.14474pt x 71.11511pt.
50
51
52 Underfull \hbox (badness 10000) in paragraph at lines 517--519
53 [][]
54 []
55
56
57 LaTeX Warning: No positions in optional float specifier.
58 Default added (so using `tbp') on input line 524.
59
60 <k_t_04.png, id=392, 642.4pt x 513.92pt>
61
62
63
64
65

1
2
3
4 File: k_t_04.png Graphic file (type png)
5 <use k_t_04.png>
6 Package pdftex.def Info: k_t_04.png used on input line 527.
7 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
8 <k_t_12.png, id=393, 642.4pt x 513.92pt>
9 File: k_t_12.png Graphic file (type png)
10 <use k_t_12.png>
11 Package pdftex.def Info: k_t_12.png used on input line 528.
12 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
13
14 Underfull \hbox (badness 10000) in paragraph at lines 527--529
15 [][]
16 []
17
18
19 <pi_k_01.png, id=394, 256.96pt x 256.96pt>
20 File: pi_k_01.png Graphic file (type png)
21 <use pi_k_01.png>
22 Package pdftex.def Info: pi_k_01.png used on input line 532.
23 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
24 <pi_k_07.png, id=395, 256.96pt x 256.96pt>
25 File: pi_k_07.png Graphic file (type png)
26 <use pi_k_07.png>
27 Package pdftex.def Info: pi_k_07.png used on input line 533.
28 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
29
30 Underfull \hbox (badness 10000) in paragraph at lines 532--534
31 [][]
32 []
33
34
35 <co_k_01.png, id=398, 128.48pt x 128.48pt>
36 File: co_k_01.png Graphic file (type png)
37 <use co_k_01.png>
38 Package pdftex.def Info: co_k_01.png used on input line 537.
39 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
40 <co_k_07.png, id=399, 128.48pt x 128.48pt>
41 File: co_k_07.png Graphic file (type png)
42 <use co_k_07.png>
43 Package pdftex.def Info: co_k_07.png used on input line 538.
44 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
45
46 Underfull \hbox (badness 10000) in paragraph at lines 537--539
47 [][]
48 []
49
50
51 <m_k_01.png, id=402, 160.6pt x 128.48pt>
52 File: m_k_01.png Graphic file (type png)
53 <use m_k_01.png>
54 Package pdftex.def Info: m_k_01.png used on input line 542.
55 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
56 <m_k_07.png, id=403, 160.6pt x 128.48pt>
57 File: m_k_07.png Graphic file (type png)
58 <use m_k_07.png>
59 Package pdftex.def Info: m_k_07.png used on input line 543.
60 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
61
62
63
64
65

1
2
3
4
5 Underfull \hbox (badness 10000) in paragraph at lines 542--544
6 [][]
7 []
8
9 <b_k_01.png, id=406, 128.48pt x 128.48pt>
10 File: b_k_01.png Graphic file (type png)
11 <use b_k_01.png>
12 Package pdftex.def Info: b_k_01.png used on input line 547.
13 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
14 <b_k_07.png, id=407, 128.48pt x 128.48pt>
15 File: b_k_07.png Graphic file (type png)
16 <use b_k_07.png>
17 Package pdftex.def Info: b_k_07.png used on input line 548.
18 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
19
20
21 Underfull \hbox (badness 10000) in paragraph at lines 547--549
22 [][]
23 []
24
25 <u_k_01.png, id=410, 160.6pt x 128.48pt>
26 File: u_k_01.png Graphic file (type png)
27 <use u_k_01.png>
28 Package pdftex.def Info: u_k_01.png used on input line 552.
29 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
30 <u_k_07.png, id=411, 160.6pt x 128.48pt>
31 File: u_k_07.png Graphic file (type png)
32 <use u_k_07.png>
33 Package pdftex.def Info: u_k_07.png used on input line 553.
34 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
35
36
37 Underfull \hbox (badness 10000) in paragraph at lines 552--554
38 [][]
39 []
40
41 <d_k_4.png, id=414, 128.48pt x 128.48pt>
42 File: d_k_4.png Graphic file (type png)
43 <use d_k_4.png>
44 Package pdftex.def Info: d_k_4.png used on input line 557.
45 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
46 <d_k_12.png, id=415, 128.48pt x 128.48pt>
47 File: d_k_12.png Graphic file (type png)
48 <use d_k_12.png>
49 Package pdftex.def Info: d_k_12.png used on input line 558.
50 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
51
52
53 Underfull \hbox (badness 10000) in paragraph at lines 557--559
54 [][]
55 []
56
57 <c_k_01.png, id=418, 642.4pt x 513.92pt>
58 File: c_k_01.png Graphic file (type png)
59 <use c_k_01.png>
60 Package pdftex.def Info: c_k_01.png used on input line 562.
61
62
63
64
65

1
2
3
4 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
5 <c_k_07.png, id=419, 642.4pt x 513.92pt>
6 File: c_k_07.png Graphic file (type png)
7 <use c_k_07.png>
8 Package pdftex.def Info: c_k_07.png used on input line 563.
9 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
10
11 Underfull \hbox (badness 10000) in paragraph at lines 562--564
12 [][]
13 []
14
15
16 <0.png, id=422, 160.6pt x 128.48pt>
17 File: 0.png Graphic file (type png)
18 <use 0.png>
19 Package pdftex.def Info: 0.png used on input line 567.
20 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
21 <6.png, id=423, 160.6pt x 128.48pt>
22 File: 6.png Graphic file (type png)
23 <use 6.png>
24 Package pdftex.def Info: 6.png used on input line 568.
25 (pdftex.def) Requested size: 98.16434pt x 71.13275pt.
26
27 Underfull \hbox (badness 10000) in paragraph at lines 567--569
28 [][]
29 []
30
31
32 <k_v_04.png, id=424, 642.4pt x 513.92pt>
33 File: k_v_04.png Graphic file (type png)
34 <use k_v_04.png>
35 Package pdftex.def Info: k_v_04.png used on input line 572.
36 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
37 <k_v_12.png, id=425, 642.4pt x 513.92pt>
38 File: k_v_12.png Graphic file (type png)
39 <use k_v_12.png>
40 Package pdftex.def Info: k_v_12.png used on input line 573.
41 (pdftex.def) Requested size: 98.15944pt x 71.12491pt.
42
43 Underfull \hbox (badness 10000) in paragraph at lines 572--574
44 [][]
45 []
46
47
48 <o_t_05.png, id=426, 321.2pt x 240.9pt>
49 File: o_t_05.png Graphic file (type png)
50 <use o_t_05.png>
51 Package pdftex.def Info: o_t_05.png used on input line 582.
52 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
53 <o_t_17.png, id=427, 321.2pt x 240.9pt>
54 File: o_t_17.png Graphic file (type png)
55 <use o_t_17.png>
56 Package pdftex.def Info: o_t_17.png used on input line 583.
57 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
58
59 Underfull \hbox (badness 10000) in paragraph at lines 582--584
60 [][]
61
62
63
64
65

```
1
2
3
4   []
5
6   <pi_o_05.png, id=428, 256.96pt x 256.96pt>
7   File: pi_o_05.png Graphic file (type png)
8   <use pi_o_05.png>
9   Package pdftex.def Info: pi_o_05.png used on input line 587.
10  (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
11  <pi_o_17.png, id=429, 256.96pt x 256.96pt>
12  File: pi_o_17.png Graphic file (type png)
13  <use pi_o_17.png>
14  Package pdftex.def Info: pi_o_17.png used on input line 588.
15  (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
16
17  Underfull \hbox (badness 10000) in paragraph at lines 587--589
18  [][]
19  []
20
21
22  <co_o_05.png, id=432, 128.48pt x 128.48pt>
23  File: co_o_05.png Graphic file (type png)
24  <use co_o_05.png>
25  Package pdftex.def Info: co_o_05.png used on input line 592.
26  (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
27  <co_o_17.png, id=433, 128.48pt x 128.48pt>
28  File: co_o_17.png Graphic file (type png)
29  <use co_o_17.png>
30  Package pdftex.def Info: co_o_17.png used on input line 593.
31  (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
32
33  Underfull \hbox (badness 10000) in paragraph at lines 592--594
34  [][]
35  []
36
37
38  <m_o_05.png, id=436, 168.63pt x 128.48pt>
39  File: m_o_05.png Graphic file (type png)
40  <use m_o_05.png>
41  Package pdftex.def Info: m_o_05.png used on input line 597.
42  (pdftex.def) Requested size: 98.16312pt x 71.13275pt.
43  <m_o_17.png, id=437, 168.63pt x 128.48pt>
44  File: m_o_17.png Graphic file (type png)
45  <use m_o_17.png>
46  Package pdftex.def Info: m_o_17.png used on input line 598.
47  (pdftex.def) Requested size: 98.16312pt x 71.13275pt.
48
49  Underfull \hbox (badness 10000) in paragraph at lines 597--599
50  [][]
51  []
52
53
54  <b_o_05.png, id=440, 128.48pt x 128.48pt>
55  File: b_o_05.png Graphic file (type png)
56  <use b_o_05.png>
57  Package pdftex.def Info: b_o_05.png used on input line 602.
58  (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
59  <b_o_17.png, id=441, 128.48pt x 128.48pt>
60  File: b_o_17.png Graphic file (type png)
61
62
63
64
65
```


1
2
3
4 <use b_o_17.png>
5 Package pdftex.def Info: b_o_17.png used on input line 603.
6 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
7
8 Underfull \hbox (badness 10000) in paragraph at lines 602--604
9 [][]
10 []
11
12 <u_o_05.png, id=444, 168.63pt x 128.48pt>
13 File: u_o_05.png Graphic file (type png)
14 <use u_o_05.png>
15 Package pdftex.def Info: u_o_05.png used on input line 607.
16 (pdftex.def) Requested size: 98.16312pt x 71.13275pt.
17 <u_o_17.png, id=445, 168.63pt x 128.48pt>
18 File: u_o_17.png Graphic file (type png)
19 <use u_o_17.png>
20 Package pdftex.def Info: u_o_17.png used on input line 608.
21 (pdftex.def) Requested size: 98.16312pt x 71.13275pt.
22
23 Underfull \hbox (badness 10000) in paragraph at lines 607--609
24 [][]
25 []
26
27
28 <d_o_5.png, id=448, 128.48pt x 128.48pt>
29 File: d_o_5.png Graphic file (type png)
30 <use d_o_5.png>
31 Package pdftex.def Info: d_o_5.png used on input line 612.
32 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
33 <d_o_17.png, id=449, 128.48pt x 128.48pt>
34 File: d_o_17.png Graphic file (type png)
35 <use d_o_17.png>
36 Package pdftex.def Info: d_o_17.png used on input line 613.
37 (pdftex.def) Requested size: 98.16336pt x 71.13275pt.
38
39 Underfull \hbox (badness 10000) in paragraph at lines 612--614
40 [][]
41 []
42
43
44 <c_o_05.png, id=452, 321.2pt x 240.9pt>
45 File: c_o_05.png Graphic file (type png)
46 <use c_o_05.png>
47 Package pdftex.def Info: c_o_05.png used on input line 617.
48 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
49 <c_o_17.png, id=453, 321.2pt x 240.9pt>
50 File: c_o_17.png Graphic file (type png)
51 <use c_o_17.png>
52 Package pdftex.def Info: c_o_17.png used on input line 618.
53 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
54
55 Underfull \hbox (badness 10000) in paragraph at lines 617--619
56 [][]
57 []
58
59
60 <p5_o_5_05.png, id=456, 321.2pt x 240.9pt>
61
62
63
64
65

1
2
3
4 File: p5_o_5_05.png Graphic file (type png)
5 <use p5_o_5_05.png>
6 Package pdftex.def Info: p5_o_5_05.png used on input line 622.
7 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
8 <p5_o_5_17.png, id=457, 321.2pt x 240.9pt>
9 File: p5_o_5_17.png Graphic file (type png)
10 <use p5_o_5_17.png>
11 Package pdftex.def Info: p5_o_5_17.png used on input line 623.
12 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
13
14 Underfull \hbox (badness 10000) in paragraph at lines 622--624
15 [][]
16 []
17
18
19 <o_v_05.png, id=458, 321.2pt x 240.9pt>
20 File: o_v_05.png Graphic file (type png)
21 <use o_v_05.png>
22 Package pdftex.def Info: o_v_05.png used on input line 627.
23 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
24 <o_v_17.png, id=459, 321.2pt x 240.9pt>
25 File: o_v_17.png Graphic file (type png)
26 <use o_v_17.png>
27 Package pdftex.def Info: o_v_17.png used on input line 628.
28 (pdftex.def) Requested size: 98.15944pt x 71.13104pt.
29
30 Underfull \hbox (badness 10000) in paragraph at lines 627--629
31 [][]
32 []
33
34
35
36 Underfull \vbox (badness 10000) has occurred while \output is active []
37
38 [10]
39 Overfull \hbox (2.43387pt too wide) in paragraph at lines 656--686
40 \OT1/ptm/m/n/10 in-ef-fi-cient in the above ex-per-i-ments. The Fig.
41 []6[](c-h)
42 -Fig. []8[](c-
43 []
44
45
46 Underfull \vbox (badness 10000) has occurred while \output is active []
47
48
49 Overfull \hbox (5.00284pt too wide) in paragraph at lines 687--688
50 \OT1/ptm/m/n/10 dataset. While, on FLIR dataset, it out-per-forms on
51 BRISQUE,
52 []
53
54
55
56 Overfull \hbox (11.55334pt too wide) in paragraph at lines 687--688
57 \OT1/ptm/m/n/10 eval-u-a-tion in-di-cates bet-ter per-for-mance of the
58 pro-
59 pose
60 d method
61 []
62
63
64
65

```

1
2
3
4
5 [11 <./f_t_01.png> <./f_t_05.png> <./pi_f_01.png (PNG copy)>
6 <./pi_f_05.png (PNG
7 copy)> <./co_f_01.png (PNG copy)> <./co_f_05.png (PNG copy)>
8 <./m_f_01.png (PNG
9 copy)> <./m_f_05.png (PNG copy)> <./b_f_01.png (PNG copy)>
10 <./b_f_05.png (PNG
11 copy)> <./u_f_01.png (PNG copy)> <./u_f_05.png (PNG copy)> <./d_f_1.png
12 (PNG
13 copy)> <./d_f_5.png (PNG copy)> <./c_f_01.png (PNG copy)> <./c_f_05.png
14 (PNG co
15 py)> <./p5_f_5_01.png (PNG copy)> <./p5_f_5_05.png (PNG copy)>
16 <./f_v_01.png (PNG
17 copy)> <./f_v_05.png (PNG copy)>]
18 Underfull \vbox (badness 10000) has occurred while \output is active []
19
20
21
22 Underfull \vbox (badness 10000) has occurred while \output is active []
23
24 [12 <./k_t_04.png (PNG copy)> <./k_t_12.png (PNG copy)> <./pi_k_01.png
25 (PNG cop
26 y)> <./pi_k_07.png (PNG copy)> <./co_k_01.png (PNG copy)> <./co_k_07.png
27 (PNG c
28 opy)> <./m_k_01.png (PNG copy)> <./m_k_07.png (PNG copy)> <./b_k_01.png
29 (PNG co
30 py)> <./b_k_07.png (PNG copy)> <./u_k_01.png (PNG copy)> <./u_k_07.png
31 (PNG cop
32 y)> <./d_k_4.png (PNG copy)> <./d_k_12.png (PNG copy)> <./c_k_01.png (PNG
33 copy)
34 > <./c_k_07.png (PNG copy)> <./0.png (PNG copy)> <./6.png (PNG copy)>
35 <./k_v_04
36 .png (PNG copy)> <./k_v_12.png (PNG copy)>] (./MVA_journal.bbl
37 Underfull \hbox (badness 1005) in paragraph at lines 26--30
38 \OT1/ptm/m/n/8.5 en-hance-ment us-ing con-vo-lutional neu-ral net-work.
39 In: 2
40 016
41 []
42
43
44
45 ! Package inputenc Error: Unicode character ☒ (U+FFFC)
46 (inputenc) not set up for use with LaTeX.
47
48 See the inputenc package documentation for explanation.
49 Type H <return> for immediate help.
50 ...
51
52 1.33 using a☒
53 laplacian pyramid of adversarial networks.
54 You may provide a definition with
55 \DeclareUnicodeCharacter
56
57
58
59 Underfull \hbox (badness 1845) in paragraph at lines 43--46
60
61
62
63
64
65

```

```

1
2
3
4  [\OT1/ptm/m/n/8.5 Gabarda, S., Crist[lobal, G.: Blind im-age qual-ity
5  as-sess-
6  ment
7  []
8
9  [13 <./o_t_05.png> <./o_t_17.png> <./pi_o_05.png (PNG copy)>
10 <./pi_o_17.png (PN
11 G copy)> <./co_o_05.png (PNG copy)> <./co_o_17.png (PNG copy)>
12 <./m_o_05.png (P
13 NG copy)> <./m_o_17.png (PNG copy)> <./b_o_05.png (PNG copy)>
14 <./b_o_17.png (PN
15 G copy)> <./u_o_05.png (PNG copy)> <./u_o_17.png (PNG copy)> <./d_o_5.png
16 (PNG
17 copy)> <./d_o_17.png (PNG copy)> <./c_o_05.png (PNG copy)> <./c_o_17.png
18 (PNG c
19 opy)> <./p5_o_5_05.png (PNG copy)> <./p5_o_5_17.png (PNG copy)>
20 <./o_v_05.png (
21 PNG copy)> <./o_v_17.png (PNG copy)>] [14])
22 Package atveryend Info: Empty hook `BeforeClearDocument' on input line
23 699.
24 [15]
25 Package atveryend Info: Empty hook `AfterLastShipout' on input line 699.
26 (./MVA_journal.aux)
27 Package atveryend Info: Executing hook `AtVeryEndDocument' on input line
28 699.
29 Package atveryend Info: Empty hook `AtEndAfterFileList' on input line
30 699.
31 Package atveryend Info: Empty hook `AtVeryVeryEnd' on input line 699.
32 )
33 Here is how much of TeX's memory you used:
34 12249 strings out of 492646
35 178922 string characters out of 6133325
36 405574 words of memory out of 5000000
37 15658 multiletter control sequences out of 15000+600000
38 54902 words of font info for 130 fonts, out of 8000000 for 9000
39 1141 hyphenation exceptions out of 8191
40 59i,11n,94p,2523b,652s stack positions out of
41 5000i,500n,10000p,200000b,80000s
42 {c:/TeXLive/2018/texmf-
43 dist/fonts/enc/dvips/base/8r.enc}<c:/TeXLive/2018/texm
44 f-dist/fonts/typel/public/amsfonts/cm/cmml10.pfb><c:/TeXLive/2018/texmf-
45 dist/fo
46 nts/typel/public/amsfonts/cm/cmr10.pfb><c:/TeXLive/2018/texmf-
47 dist/fonts/typel/
48 public/amsfonts/cm/cmsy10.pfb><c:/TeXLive/2018/texmf-
49 dist/fonts/typel/public/am
50 sfonts/symbols/msbm10.pfb><c:/TeXLive/2018/texmf-
51 dist/fonts/typel/public/rsfs/r
52 sfs10.pfb><c:/TeXLive/2018/texmf-
53 dist/fonts/typel/urw/symbol/usyr.pfb><c:/TeXLi
54 ve/2018/texmf-
55 dist/fonts/typel/urw/symbol/usyr.pfb><c:/TeXLive/2018/texmf-dist/
56 fonts/typel/urw/times/utmb8a.pfb><c:/TeXLive/2018/texmf-
57 dist/fonts/typel/urw/ti
58
59
60
61
62
63
64
65

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

```
mes/utmr8a.pfb><c:/TeXLive/2018/texmf-  
dist/fonts/typel/urw/times/utmri8a.pfb>  
Output written on MVA_journal.pdf (15 pages, 29617677 bytes).  
PDF statistics:  
  667 PDF objects out of 1000 (max. 8388607)  
  509 compressed objects within 6 object streams  
  131 named destinations out of 1000 (max. 500000)  
  501 words of extra memory for PDF output out of 10000 (max. 10000000)
```



Click here to access/download
Supplementary Material
MVA_journal.pdf

