Instructions for Creating PDF Files for Submission to AT-RASC 2018

1. Basic Instructions

It is a requirement that all *Extended Abstracts*, *Summary Papers*, and *Full Papers* (the latter are only submitted by participants in the Student Paper Competition) be submitted in PDF format (Adobe Portable Document Format). **It is a further requirement that the PDFs submitted be created using PDF eXpress**. This is a free-to-use tool provided by the IEEE that insures that the resulting PDFs are IEEE Xplore compliant. To use PDF eXpress, use the following link: http://www.pdf-express.org. Please use the Conference ID: 43330X. The first time you use PDF eXpress, you will need to set a password by clicking on "New Users – Click Here" and then entering the Conference ID and your e-mail address. Detailed instructions on creating a PDF eXpress account, uploading files, and revising files to be compliant are given at http://www.pdf-express.org/frhelpnologin.asp.

PDF eXpress will accept the following file types as input, and produce a valid PDF as output:

- Microsoft Word
- WordPerfect
- Rich Text Format
- (La)TeX (A DVI and supported image files must be included in a compressed archive)
- PageMaker (images should not be embedded, included with main file in a compressed archive)

PDF eXpress will also accept PDF files as input, and provide a report indicating that the PDF file is in compliance with IEEE standards or identify the errors that need to be corrected.

If you are converting a LaTeX or TeX file, please read Section 2 for important information.

Do *not* submit scanned PDF files.

After conversion to PDF, please check the resulting PDF file by looking at it in a PDF viewer (the free Adobe Reader is preferred) to be sure that the result is what you expected. In particular, please check all equations to be sure that they have been correctly converted. See Section 3 for a list of the most common reasons why PDF files are reported as non-compliant.

2. Comments Related to LaTeX and TeX File Conversion

Documents converted from the (La)TeX typesetting language into the Adobe PostScript language or Acrobat Portable Document format (PDF) files often contain fixed-resolution (Type 3) bitmap fonts. These do not print or display well with a variety of printer and display environments. Only Type 1, TrueType, or Open Type versions of the fonts are acceptable for AT-RASC papers.

As an example, the default behavior of Rakicki's DVIPS is to embed Type 3 bitmapped fonts. You need access to the Type 1 versions of the fonts you use in your documents in order to

embed the fonts. Type 1 versions of the Computer Modern fonts are available in the BaKoMa collection (http://ctan.tug.org/tex-archive/fonts/cm/ps-type1/bakoma/) and from commercial type vendors.

Before distributing files with embedded fonts, consult the license agreement for your font package. Some typeface vendors do not allow you to embed complete fonts into a PDF file for public distribution. You may embed all fonts included in the Adobe Type library. When using LaTeX, only embedded fonts should be used to ensure a decent conversion to PDF. Use of Times fonts are recommended. With LaTeX2e use the command \usepackage{times} and with LaTeX 2.09 use the command \documentstyle[times]{…}. You will need the following packages: times.sty, rawfonts.sty.

3. **The Most Common Reasons PDF Files are Reported as Non-Compliant**

    1. Encryption or other security settings have not been turned off (do *not* use a password on your PDF file).

    2. Bitmap (e.g., Type 3) fonts have been used (use Type 1, TrueType, or Open Type fonts).

    3. All fonts have not been embedded.

    4. A scanned PDF file is submitted (i.e., the PDF consists of pages that are images).

    5. A link or bookmark has been included (e.g., by using PDF Maker in *Word* with its default setting to create a PDF from a *Word* document containing a Web or e-mail address that is a link).

    6. Fonts in EPS graphics are either not embedded, or are bitmap fonts.

    Note that if PDF eXpress is used to create the PDF, none of these problems should be encountered.

4. **Some Tips for Graphics**

    In general, the use of vector graphics, such as those produced by many presentation and drawing packages, can be used without concern and is encouraged. The use of bitmap images, such as those produced when a photograph is scanned, can require significant storage space and these therefore must be used with care. Bitmap graphics store an image as a series of numbers that represent the color of each dot in the image. Increasing the size, resolution (dots per inch), or number of colors in an image will dramatically increase the size of the image.

    If your paper contains many images and/or large images, they will be down-sampled to reduce their size during the process of converting to PDF format (if you convert the file to PDF on your own, rather than using PDF eXpress). However, the automated process used will not always produce the best image, and you are encouraged to perform down-

sampling yourself on an image-by-image basis, using an image-manipulation program such as *PhotoShop*.

It is strongly recommended that you both look at the PDF you create on a computer display and print it out, paying particular care to the quality of the images, before you submit the PDF.

As a general rule, a resolution of 300 dpi for an image *at the final size it will appear in a paper* is desirable. A resolution of 150 dpi may be OK for some line art (e.g., line drawings showing geometry, or simple plots). Resolutions associated with the Web (e.g., 72 dpi and 96 dpi) are typically too low to produce adequate quality.