Journal of Physics: Conference Series multimedia guidelines

1. Introduction

Journal of Physics: Conference Series encourages authors to submit multimedia files to enhance the online versions of published research articles. Multimedia enhancements typically consist of video clips, animations or supplementary data such as data files, tables of extra information or extra figures. They can add to the reader's understanding and present results in attractive ways that may be used to convey essential information.

2. Multimedia files

Video animation and clips

Acceptable formats for video or animation clips are MPEG, QuickTime, Windows AVI or Animated GIF. Your video or animation clips are intended for internet use via our Web server, and we need to consider the needs of users with slow internet connections (e.g. modem-based users) so that your work can be made available to the widest possible readership.

Please aim to minimize file sizes and data rates, by considering the following points:

- 480 × 360 pixels is the recommended maximum frame size.
- A recommended frame rate is 12–15 frames per second (fps). (Many packages output 30 fps as standard, but you can specify a lower frame rate.)
- Use a 256 colour palette if that is suitable for the presentation of the material.

Please consider the use of lower specifications for all these points if the material can still be represented clearly. Our recommended maximum file size is 3MB. Our recommended maximum data rate is 150 KB/s.

The various formats have different characteristics that you should consider when choosing the format for your material:

MPEG

- Suitable for photo-realistic material.
- Requires users to have a third party viewer.
- We recommend MPEG 1.
- The MPEG standard is specified in terms of millions of colours and at least 24 fps, so you cannot choose lower specifications for these settings.

QuickTime and Windows AVI

- Suitable for computer-generated material.
- Requires users to have a third party viewer.
- We recommend the Cinepak codec for compression. This provides good compression and, importantly, it is widely supported.

- You can often consider the use of a 256 colour palette for computer-generated material.
- As a general rule, we recommend using Quality 75%.

Animated GIF

- Suitable for computer-generated material.
- Animations may be rendered directly in a Web browser without the need for a third party viewer.
- Please use only standard GIF functions as some browsers don't support the whole GIF 89 standard.
- Because GIF compression is not good, consider small frame sizes and low frame rates.

3. Supplementary data

Data files or extra figures can be submitted in any of the usual formats (PDF, Word, TeX, EPS, GIF, TIFF, etc). In addition, we are happy to consider output files from specialized data processing software and computer program codes.

We will not always be able to check the contents of data files so you should consider the requirements of anyone who downloads your multimedia files. Do your multimedia files require an explanation of how to use them? If so, please include a simple 'read-me' text file containing brief instructions on how to use the file(s) you are supplying. For example, they may contain data for input into specialized modelling software in which case it would help readers to know which software package (and version) is required to use the data.

4. Software and executable files

Although rare, we do receive the occasional request to upload executable software written and compiled by the authors of the corresponding paper. Providing downloadable software has to be handled with great care and caution so please contact us for further advice prior to supplying software. It is also important that you have the right to distribute any executable programs that you intend to make available with your paper.