Report
Sistemi di Calcolo Parallelo e Applicazione

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Abstract

This sample is a guideline for preparing technical papers using LaTeX for manuscript submission. It contains the documentation for your LaTeX Class file, which implements the layout for your manuscript for all Journals of OUP. This sample article uses a class file named `ouparticle.cls` that all authors need to use for their manuscript preparation. It is similar in use to the `article` class file of LaTeX, but has some extra fields in the preamble and some extended commands for other parts of the article.

1 Introduzione

It is assumed that the author is familiar with either plain TeX, $\mathcal{A}\mathcal{M}\mathcal{S}$-TeX or a standard LaTeX setup and, hence, only the essential points are described in this document. Nevertheless, we hope that this document is generally sufficient for describing the requirements for preparation of manuscripts. For more details, please see the *LaTeX User's Guide* or *The not so short introduction to LaTeX 2$_\varepsilon$*.

2 Progettazione

Provided with `ouparticle.cls` are the files `sample.tex` (this document explains the various features of `ouparticle.cls`) and `sample.pdf` (how the output using `sample.tex` should be). Your paper can be compiled with standard LaTeX, preferably with the current LaTeX 2$_\varepsilon$ version. It will probably work with older versions of LaTeX 2$_\varepsilon$; however, this has not been tested. The file `ouparticle.cls` needs to be copied into a directory where TeX looks for input files. The other files need to be kept as a reference while preparing your manuscript. Please use the predefined commands from `sample.tex` for title, authors, abstract, body, etc.

3 Implementazione

3.1 Calcolo Seriale

Matrice	Speedup CPU	d
adder_dcop_32	0.21	0.01
af_1_k101	9.68	8.80
af23560	2.92	2.77
amazon0302	5.81	5.83
bcsstk17	1.71	1.07
cage4	0.00	0.00
cant	4.74	5.92
cavity10	0.53	0.47
cop20k_A	7.09	2.66
Cube_Coup_dt0	10.14	7.99
dc1	2.31	
FEM_3D_thermal1	2.28	2.39
lung2	3.26	2.43
mac_econ_fwd500	3.69	1.29
mcfe	0.23	0.18
mhd4800a	0.73	0.65
mhda416	0.12	0.04
ML_Laplace	9.96	9.01
nlpkkt80	9.74	8.75
olafu	3.39	3.20
olm1000	0.05	0.06
PR02R	8.47	4.58
raefsky2	1.48	1.23
rdist2	0.48	0.23
roadNet-PA	5.93	3.20
thermal1	2.31	3.44
thermal2	3.93	5.57
thermomech_TK	4.53	4.24
webbase-1M	6.09	
west2021	0.10	0.08

Matrice	Speedup GPU	
adder_dcop_32	1.78	0.78
af_1_k101	66.32	110.73
af23560	35.67	72.48
amazon0302	21.79	72.35
bcsstk17	26.97	46.71
cage4	0.00	0.00
cant	75.58	81.33
cavity10	6.81	17.19
cop20k_A	50.65	69.95
Cube_Coup_dt0	110.93	119.84
dc1	8.32	
FEM_3D_thermal1	28.77	61.26
lung2	9.68	24.02
mac_econ_fwd500	16.89	32.47
mcfe	2.41	4.21
mhd4800a	10.38	23.35
mhda416	1.25	2.27
ML_Laplace	113.11	115.12
nlpkkt80	69.91	109.88
olafu	53.04	79.07
olm1000	0.52	1.28
PR02R	81.70	65.85
raefsky2	18.29	39.91
rdist2	4.83	11.35
roadNet-PA	14.93	106.62
thermal1	16.81	39.09
thermal2	30.21	111.85
thermomech_TK	21.35	48.29
webbase-1M	13.11	
west2021	0.70	2.00

Matrice	GFlops CPU	
adder_dcop_32	0.04	0.00
af_1_k101	4.67	4.24
af23560	1.10	1.10
amazon0302	1.02	1.30
bcsstk17	0.85	0.49
cage4	0.00	0.00
cant	2.31	2.44
cavity10	0.21	0.17
cop20k_A	2.26	0.86
Cube_Coup_dt0	5.04	3.99
dc1	0.86	
FEM_3D_thermal1	0.92	0.94
lung2	1.07	0.49
mac_econ_fwd500	1.48	0.46
mcfe	0.08	0.04
mhd4800a	0.25	0.21
mhda416	0.03	0.03
ML_Laplace	4.83	4.36
nlpkkt80	4.67	4.24
olafu	1.65	1.42
olm1000	0.02	0.02
PR02R	4.14	2.25
raefsky2	0.46	0.39
rdist2	0.15	0.07
roadNet-PA	1.38	0.75
thermal1	1.17	1.02
thermal2	0.93	1.60
thermomech_TK	1.13	0.99
webbase-1M	1.66	
west2021	0.03	0.03

Matrice	GFlops GPU	
adder_dcop_32	0.44	0.19
af_1_k101	31.85	53.18
af23560	15.37	31.24
amazon0302	4.86	16.14
bcsstk17	12.07	20.91
cage4	0.01	0.01
cant	35.46	38.17
cavity10	2.88	7.27
cop20k_A	18.10	24.99
Cube_Coup_dt0	53.89	58.22
dc1	3.30	
FEM_3D_thermal1	13.05	27.79
lung2	3.75	9.29
mac_econ_fwd500	6.40	12.30
mcfe	1.00	1.74
mhd4800a	4.54	10.23
mhda416	0.43	0.78
ML_Laplace	53.51	54.45
nlpkkt80	33.36	52.43
olafu	24.76	36.91
olm1000	0.18	0.44
PR02R	38.61	31.12
raefsky2	8.17	17.83
rdist2	2.11	4.95
roadNet-PA	3.60	25.70
thermal1	5.55	12.91
thermal2	8.91	33.00
thermomech_TK	5.67	12.82
webbase-1M	3.89	
west2021	0.23	0.67

3.2 Calcolo con OpenMP

Before you type anything that actually appears in the paper, you need to include a `\documentclass{ouparticle}` command at the very beginning, and then the two commands that have to be part of any LaTeX document, `\begin{document}` at the start and `\end{document}` at the end of your paper.

3.3 Calcolo con CUDA

The main structure of your paper is as follows:

4 Performance

By default, all of the options within `article.cls` are available with this class file. This class file provides the following additional options.

4.1 Front matter

The title of the manuscript is simply specified by using the `\title{text}` command in the same manner as in this sample. Author's information consists of the name of the author and the corresponding institutions with addresses, as given in this example. Include an electronic mail address if available, inserting it into the `\email{text}` commands. You may follow the same coding if there are more than one author; separate authors with `\and`. Please identify the corresponding author with his/her electronic mail address by `\thanks{text}`. An abstract for your paper is specified by using `\abstract{text}`. A `\keywords{text}` macro may also be used to indicate keywords for the article. Use `\maketitle` after the abstract and keywords to make the header of your article.

4.2 Sections and subsections

To begin a new section, give the heading of that section in the `\section{text}` command. A section number is supplied automatically. Use the starred form (`\section*{text}`) of the command to suppress the automatic numbering. If you want to be able to make reference to that section, then you need to `label` it (see Section **??**). You can have sections up to five levels. The sectioning commands are `\section`, `\subsection`, `\subsubsection`, `\paragraph` and `\subparagraph`.

5 Conclusioni

The ends of words and sentences are marked by spaces. It does not matter how many spaces you type. The end of a line counts as a space. One or more blank lines denote the end of a paragraph.

5.1 Appendix

The `\appendix` command signals that all following sections are appendices, and therefore the headings after `\appendix` will be set as appendix headings. For a single appendix,

use `\appendix*` followed by the `\section{text}` command to suppress the appendix letter in the section heading.

6 References

The reference entries can be LaTeX typed bibliographies or generated through a BIBTeX database. BIBTeX is an adjunct to LaTeX that aids in the preparation of bibliographies. BIBTeX allows authors to build up a database or collection of bibliography entries that may be used for many manuscripts. They also save us the trouble of having to specify formatting. More details can be found in the *BIBTeX Guide*. For LaTeX reference entries use the `\begin{thebibliography}....\end{thebibliography}` environment (see below) to make references in your paper. We have provided the class file option to distinguish two styles of references. Those options are `numbib` and `nonumbib`. You can select one of these options with the `\documentclass` command. By default the class file will take the `numbib` option. The following is an example of LaTeX bibliography.

```
\begin{thebibliography}{0}
\bibitem{bib1}
Goossens, M., F. Mittelbach, and A. Samarin: {\em The {\LaTeX} Companion}.
Addison-Wesley, Reading, MA, USA, 1994.
\bibitem{bib2}
Knuth, D.E: {\em The {\TeX}book}. Addison-Wesley, Reading, MA, USA, 1984.
\bibitem{bib3}
Lamport, L.: {\em {\LaTeX} -- A Document Preparation System -- User's
Guide and Reference Manual}. Addison-Wesley, Reading, MA, USA, 1985.
\bibitem{bib4}
Smith, I.N., R.S. Johnes, and W.P. Hines: 1992, 'Title of the Article',
\textit{Journal Title in Italics} \textbf{Vol. no. X}, pp. 00--00
\end{thebibliography}
```

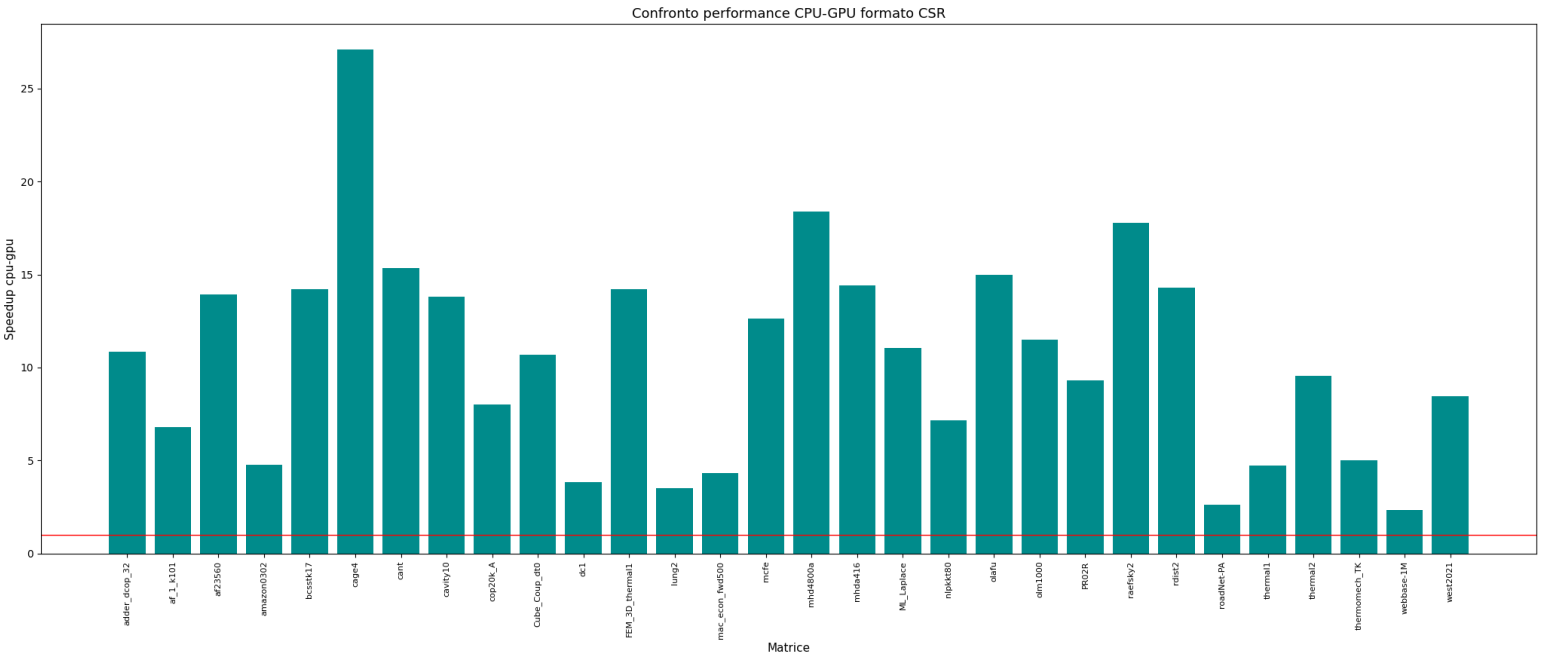

Figure 1: here