

Focusing of a Parallel Beam to Form a Point in the Particle Deflection Plane

Ivar Ekeland¹, Roger Temam², Jeffrey Dean², David Grove¹, Craig Chambers²,
Kim B. Bruce², and Elsa Bertino¹

¹ Princeton University, Princeton NJ 08544, USA

² Université de Paris-Sud, Laboratoire d'Analyse Numérique, Bâtiment 425,
F-91405 Orsay Cedex, France

Abstract. The abstract is optional. If present it should summarize the contents of the paper in at least 70 and at most 150 words; neither too long nor too short but to the point!

1 Text

Please consult the file or printout of *1readme.** to find detailed instructions on the layout and style of text elements.

1.1 Fixed-Period Problems: The Sublinear Case

Of course this text has no scientific relevance but should be used as a practical example of the Springer layout specifications for *physics books* [3].

We begin now the search for periodic solutions to Hamiltonian systems. All this will be done in the convex case; that is, we shall study the boundary-value problem

$$\dot{x}(0) = JH'(t, x) \tag{1}$$

$$x(0) = x(T) \tag{2}$$

with $H(t, \cdot)$ a convex function of x , going to $+\infty$ when $\|x\| \rightarrow \infty$.

2 Equations

Please consult the file or printout of *1readme.** to find detailed instructions on the layout and style of mathematical elements.

The following equation is the compiled result of using the command `\vec` and using the newly defined command `\umu`:

$$\mathbf{A} = \mu y = 50 \mu\text{m} . \tag{3}$$

2.1 Sub-equations

As you have seen above, equations are numbered automatically when the equations are defined with `\begin{equation}` (but not when `$$` is used). Here you will find an example for the automatic sub-numbering of equation arrays, using the style `subeqnar.sty`:

$$a = c + d , \tag{4a}$$

$$e = f - d . \tag{4b}$$

In order to refer to the equations within the main text you must simply label your equations (within the equation's environment) and quote the labels within the text environment. Upon running \TeX you should receive the corresponding subnumbers, e.g. (4a) and (4b).

No Sub-numbering. If you want to suppress the sub-numbering of an equation array you may use the original `\begin{subeqnarray}` environment, put `\nonumber` at the end of the line that is to have no number, and set the sub-counter to zero:

$$\begin{array}{l} a = c + d , \\ e = f - d . \end{array} \tag{5}$$

3 Figures

Please consult the file or printout of *lreadme.** to find detailed instructions on how to treat figures.

If your figures are available as electronic data it is advisable to convert them to eps-format and include them directly into the text with the help of the graphics package (see the following example in Fig. 1)

In order to mark the desired amount of space for a (centered!) figure which has to be pasted into the manuscript manually please provide a vertical line on the lefthand side of the figure. This is reached by using the commands `\mpicplace{width in cm}{height in cm}`.

For further instructions e.g. on the structure and layout of the caption see the captions of Figs. 2 and 3.



Fig. 1. Example of an electronically included eps-figure



Fig. 2. General description. **(a)** The ‘name’ of the sub-figure should be set boldface and in round brackets. **(b)** In general the last sentence of a figure caption should not end with a fullstop



Fig. 3. This could show a figure consisting of different types of lines to describe individual aspects. These descriptive lines (*dotted line*) should be set italic and put into round brackets as shown in this sample figure caption. In general the last sentence of a figure caption (*straight line*) should not end with a fullstop

4 Tables

If equations and figures are centered then tables should be centered as well. Table captions should be treated in the same way as figure legends, except that the table captions appear *above* the tables. Overwide tables should be reduced to the page width, if possible, or exceed the type area by a maximum of 5 mm. Please check the T_EX files of the following tables (Table 1 and 2) and use them as an example for setting your own tables.

Table 1. Critical N values

M_{\odot}	β_0	T_{c6}	γ	N_{crit}^L	$N_{\text{crit}}^{\text{Te}}$
30	0.82	38.4	35.7	154	320
60	0.67	42.1	34.7	138	340
120	0.52	45.1	34.0	124	370

Table 2. Please write your table caption here. Multi-line captions as well as single-line captions automatically will be set flushleft

Nominal dimension (mm)	Angle	Tolerance (μm)	Evaluation factor
10^1	1°	Untoleranced dimension	$c_1 = 0$
10^{-1}	$1'^{\text{a}}$	101–200	$c_1 = 1$
10^{-2}	$1''^{\text{b}}$	40–100	$c_1 = 2$
10^{-3}		< 50	$c_1 = 3$

^a One minute of arc.^b One second of arc.

5 Lists

We have redefined the *itemize* environment (labelitemi) so that you will receive bullets instead of dashes to introduce the individual items. We think that this way the list

- is clearer
- looks better
- is more noticeable

Appendix

Of course you may use the standard \LaTeX command for your appendix. But please be aware of the fact that we have modified so that the numbering of equations, figures and tables remains arabic, see examples below.

$$\begin{aligned} a &= c + d , \\ e &= f - d . \end{aligned} \tag{6}$$

Table 3. Critical N values

M_\odot	β_0	T_{c6}	γ	$N_{\text{crit}}^{\text{L}}$	$N_{\text{crit}}^{\text{Te}}$
30	0.82	38.4	35.7	154	320
60	0.67	42.1	34.7	138	340
120	0.52	45.1	34.0	124	370

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