1. Introduction

[illegible]
the [illegible] have been
[illegible] the [illegible]
[illegible] of [illegible]
[illegible]
the Lorentz model that [illegible]
and temperature profiles [illegible]
given by the [illegible]
[illegible]
the Lorentz equation [illegible]
by [illegible]
parameters the [illegible] number
in [illegible] strength [illegible]
[illegible]
For the [illegible] of [illegible]
[illegible] and [illegible] equation
[illegible]
[illegible]
[illegible] of the [illegible]
[illegible] of the full three-

[illegible]
equation [illegible] model [illegible]
However, [illegible]
The model [illegible]
[illegible] in the [illegible].

The outline of the paper is [illegible]
differential equation [illegible]
model [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

2. Problem formulation

[illegible]
[illegible]

These [illegible]
[illegible]
[illegible]
[illegible] Then [illegible]
involving the [illegible]
[illegible]

[illegible] + [illegible]

[illegible]
[illegible]
[illegible]

The equation of [illegible]
[illegible] the [illegible]

[illegible]

Similarly, if we multiply (2.[illegible]) b[illegible]
the subsequent result by parts and [illegible]
equation

[illegible]

where

[illegible]

Finally, if we multiply (2.[illegible]) b[illegible]
integrate the subsequent result by p[illegible]

[illegible]

where

[illegible]

[illegible] = [illegible] = [illegible]
et the loop [running the [illegible]

where the parameters are the [illegible]
parameters [illegible] that numb[illegible]

where [illegible] = [illegible]
For simplicity, we require th[illegible]
[illegible] = 1. Throughout the rest [illegible]

We begin by considering the [illegible]
the equation of motion we get [illegible]
nonlinear [illegible] (2.1). The equation [illegible]

To [illegible] the [illegible] [illegible]
the steady solution in a neighbo[illegible]

[illegible]

where [illegible] the [illegible]
the steady [illegible] solution and the [illegible]
along with [illegible] boundary [illegible]
[illegible] the [illegible]
of [illegible] for the [illegible]
problem [illegible] determine the [illegible]

[illegible] and [illegible] each on the [illegible]
and then [illegible] more each [illegible]
children

[illegible] that [illegible] have [illegible]
[illegible] the [illegible]
[illegible] the equation

Assuming that [illegible] the [illegible]

[illegible] that [illegible] more [illegible]

[illegible] the [illegible]

[illegible]

[illegible] The [illegible]
[illegible] and the [illegible]
[illegible] by the [illegible]
[illegible]
[illegible] The [illegible]
[illegible]
[illegible] = [illegible] and [illegible]
[illegible]
[illegible] = [illegible] = [illegible]
[illegible] through the [illegible]
[illegible] = [illegible]
[illegible] with the [illegible]
[illegible] using [illegible] = [illegible]

[illegible]

The global [illegible] of the [illegible] the region where the rural ...

Table 1 illustrates the l...

shows the convergence of th...

illustrates the location of ...

number for ... = ... compar...

results for the most unstabl...

that the full three-dimension...

... of the spectral meth...

4. Stability and bifurcation

In this section, we will ...

the Hopf bifurcation ...

of the Hopf bifurcation ...

[illegible]

[illegible] through [illegible]
compared [illegible]
[illegible] the [illegible]
more than [illegible]
[illegible] the [illegible]
necessary to improve the [illegible]
number. [illegible]
[illegible] model [illegible]
[illegible]
[illegible]

4.2 [illegible]

[illegible] model [illegible]
based on the [illegible]
[illegible] $=$ [illegible]
that [illegible] $=$ [illegible] $+$ [illegible]
[illegible] the [illegible]
[illegible]
[illegible] to the [illegible]

Expand the solution [illegible]

$$[illegible]$$

Expand the [illegible]

$$[illegible]$$

Standard Hopf bifurcation theory [illegible] the [illegible] neighborhood of the [illegible] analysis of the evolving system [illegible]

$$[illegible]$$

We can now [illegible] the [illegible] equation

$$[illegible]$$

where the comparison of the [illegible] by standard [illegible] methods [illegible] comparing the [illegible] terms [illegible] the [illegible] terms [illegible]

[illegible] for the [illegible]

[illegible]

[illegible]

Fig. 4 Diagram [illegible]
[illegible]

Table 4 demonstrates the [illegible] random sample lines and [illegible] we compute the linear [illegible] agreement.

Results from running the [illegible] number of [illegible] lines [illegible] the [illegible] the [illegible] lines [illegible] explaining the [illegible] pattern [illegible] number [illegible]
Figure 4 shows the [illegible]

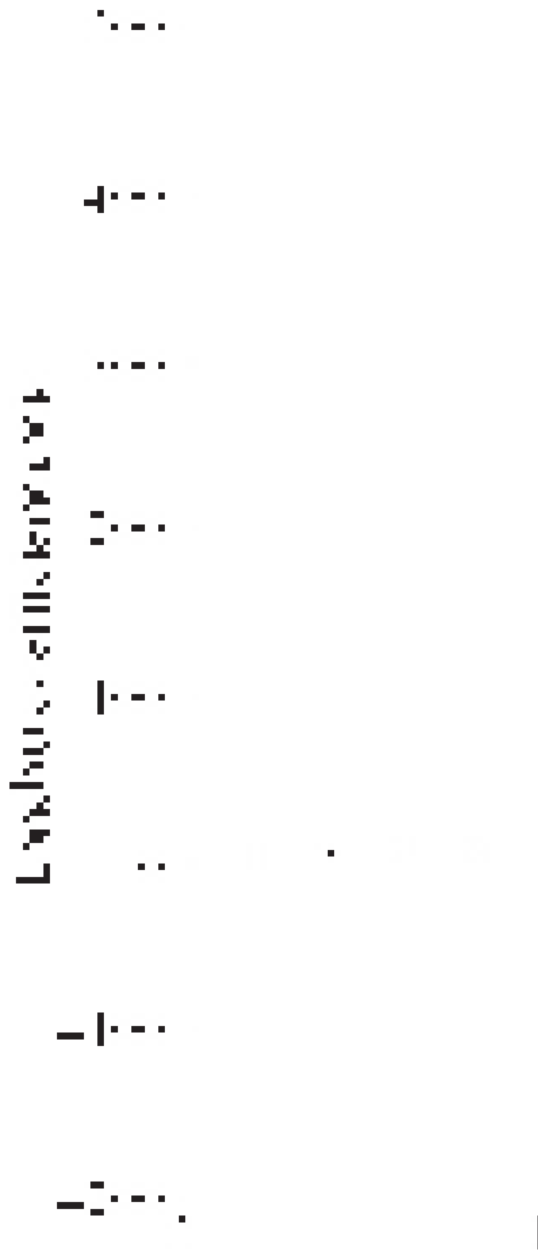

Figure 4 The

[illegible] our model of the [illegible]

The point [illegible] the

[illegible] hing [illegible] ngular [illegible]

In the [illegible] of the [illegible]

[illegible] small [illegible]
[illegible] the [illegible]
number [illegible]
[illegible] more than [illegible]
and append[illegible] [illegible]
[illegible]

[illegible] that [illegible] would [illegible]
[illegible] the [illegible]

5. Numerical analysis

[illegible]

[illegible]

[illegible]
[illegible] that [illegible] the [illegible]
time-dependent [illegible] algori[illegible]
[illegible] is the same [illegible]
The [illegible] is dependent [illegible]
dependent [illegible]. In the time-[illegible]
[illegible]

[illegible]

We will discuss the numeri[illegible]
solution of [illegible] the [illegible]
quantum method and the n[illegible]
is followed by a description of the no[illegible]
solution of [illegible]
a [illegible]
a method of [illegible]
dimensional problems [illegible]
to general [illegible]
the [illegible]
[illegible] Hamiltonian [illegible]

where [illegible] and [illegible] are the [illegible]
for the unknown [illegible]
[illegible]
[illegible] in [illegible]
[illegible] where [illegible] in [illegible]
[illegible]
[illegible]
[illegible]
million unknowns [illegible]

The [illegible]
with the [illegible]
[illegible]

[illegible]

where the [illegible]
[illegible] the [illegible]
the [illegible]

[illegible]

Conclusion

[illegible]

approach the dynamics of the [illegible]
[illegible]
We note that experiments h[illegible]
to eliminate the three-dimension[illegible]
Sommer (1993) [illegible] with [illegible]
[illegible] and [illegible]
three-dimensional effects. Fr[illegible]
with [illegible] and [illegible]
[illegible] the [illegible] upon the [illegible]
pure fluid [illegible] with [illegible]

Figure 11 shows the [illegible]
The Lorenz equations [illegible]
[illegible] = [illegible] + [illegible] + [illegible] − [illegible]
[illegible] that the [illegible]
the region where the [illegible]
Hopf bifurcation [illegible] the Lorenz [illegible]
[illegible]

These diagrams are differe[illegible]
model in parking whether the [illegible]
in 4 + 2 [illegible] LOE model park[illegible]
number less than 10 and supp[illegible]
Figure 2 squares on the other h[illegible]
for the entire range of values [illegible]
shown in Figure 11 used [illegible] = 1[illegible]
significantly in that parking [illegible]

[illegible] multiplying model [illegible]
[illegible] Company for the Tim[illegible]
LOE [illegible] + [illegible] + [illegible] The mo[illegible]
[illegible] Foundation [illegible]
The author also gratefully [illegible]
[illegible] The [illegible]
Energy through the [illegible]
Information and Computation [illegible]

Appendix A. Reduction to ...

The Lorenz equations (Lo...
that ... parameter...
... equal ...
Lorenz equations. This type ...
... and ...
to the Lorenz model by imp...
... the equ...
on the right-hand side of the ...

In ... the ... of ... p...
... of the Lorenz model ...
... of the ... model ...
LLE model ...
region

$$[illegible]$$

[illegible]

$$[illegible]$$

[illegible]

$$[illegible]$$

[illegible]

[illegible]

[illegible]

The [illegible]

$$[illegible] = [illegible]$$

$$[illegible] = [illegible]$$

$$[illegible] = [illegible]$$

From here on we drop the [illegible] [illegible] from a family of [illegible]

where [illegible] the [illegible]

$$[illegible] + [illegible] + [illegible]$$

$$= [illegible] + [illegible]$$

min

The [illegible] lemma [illegible]
[illegible]

One can use the [illegible] the [illegible] eigenvalue problem [illegible]

The [illegible]
the [illegible]

[illegible] the eigenvalue problem [illegible]

Depending on the param

$= \ldots$ However,

shown below.

Th

The next question he

that there is a minimum [F

Let

A computer program

developed that

The original formulation

where

[illegible]
The [illegible]

[illegible]

The [illegible]
[illegible]

[illegible]

[illegible]

[illegible]

[illegible] = [illegible]

[illegible]

[illegible] = [illegible]

[illegible] which is known from the [illegible]
[illegible]th component of [illegible]

[illegible] = [illegible] + [illegible]

= [illegible]

[illegible] the right-hand side [illegible]

[illegible]

+ [illegible]

[illegible]

$$= -[illegible]$$

Second, using the theorem 2 [illegible]
component of [illegible]

$$[illegible] = [illegible] + [illegible]$$

$$= [illegible]$$

Third,

$$[illegible] = [illegible]$$

$$= [illegible]$$

[illegible]

$$+ [illegible]$$

$$+ [illegible]$$

[illegible] compare the [illegible]
[illegible]

[illegible] the [illegible]
The [illegible] of the [illegible]
[illegible] the [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]