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Examples of Doctoral Dissertation Writing

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The examples cited in the specifications are only examples of the writing format of the paper, and do not represent the demonstration of the research content of the paper.

华北电力大学

XX 学位论文

局部多孔质气体静压轴承关键技术的研究

Research on Key Technologies of Partial Porous Externally Pressurized Gas Bearing

Author Name

20XX 年 X 月

国内图书分类号：××××
国际图书分类号：××××

学校代码：10079
密级：公开

工学博士学位论文

局部多孔质气体静压轴承关键技术的研究

博 士 研 究 生：□□□

导　　　　　师：□□□教授

申 请 学 位：工学博士

学　　　　科：

专　　　　业：

所 在 学 院：电气与电子工程学院

答 辩 日 期：2007 年 6 月

授予学位单位：华北电力大学

Classified Index: ××××　　（Times New Roman　12pt）
U.D.C: ××××　　（Times New Roman　12pt）

This is the degree categories，times new roman. 18pt. middle

Dissertation for the Doctoral Degree in Engineering

Research on Key Technologies of Partial Porous Externally Pressurized Gas Bearing

This is the title of the paper，times new roman，bold, 18pt，middle

Students should file the blank below according to their own conditions. times new roman, 14pt

Candidate：　　　　　　　　　□□□

Supervisor：　　　　　　　　Prof.□□□
Academic Degree Applied for：　Doctor of Engineering
Speciality：
School：　　　　　　　　　　School of
Date of Defence：　　　　　　**June, 2007**

Degree-Conferring-Institution：　North China Electric Power University

华北电力大学博士学位论文原创性声明

本人郑重声明：此处所提交的博士学位论文《　　　　　　　》，是本人在导师指导下，在华北电力大学攻读博士学位期间独立进行研究工作所取得的成果。据本人所知，论文中除已注明部分外不包含他人已发表或撰写过的研究成果。对本文的研究工作做出重要贡献的个人和集体，均已在文中以明确方式注明。本声明的法律结果将完全由本人承担。

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导师签名：　　　　　　　　　　　日期：　　年　　月　　日

摘　　要　（title: Font: SimHei (黑体), size: 18 pt, middle）

摘要是论文内容的高度概括，应具有独立性和自含性，即不阅读论文的全文，就能获得必要的信息。摘要应包括本论文的目的、主要研究内容、研究方法、创造性成果及其理论与实际意义。摘要中不宜使用公式、化学结构式、图表和非公知公用的符号和术语，不标注引用文献编号。避免将摘要写成目录式的内容介绍。

关键词：关键词 1；关键词 2；关键词 3；……；关键词 6

(Content and keywords: font 宋体, size 12pt or 小四, Paragraph Line Spacing: 20pt)

Abstract （Times New Roman 18pt, Bold, middle）

Externally pressurized gas bearing has been widely used in the field of aviation, semiconductor, weave, and measurement apparatus because of its advantage of high accuracy, little friction, low heat distortion, long life-span, and no pollution. In this thesis, based on the domestic and overseas researching……

Keywords: keyword 1， keyword 2，keyword 3， ……，keyword 6

(English abstracts should be consistent with Chinese abstracts and should be accurate in grammar and vocabulary.)

(Content and keywords: Times New Roman 12pt, Paragraph Line Spacing: 1.25 line)

Contents （Times New Roman 18pt, Bold）

（Times New Roman 12pt, Paragraph Line Spacing: 1.25 line, first class title need to be bolded like above）

Chapter 1 Introduction (Times New Roman, 18pt, Bold, placed in the middle; Paragraph Line Spacing:1.35 line, before 25pt, after 12pt)

1.1 Research Background (Times New Roman, 15pt, Bold; Paragraph Line Spacing: 1.35 line, before 0.5 line, after 0.5 line)

The development of advanced technologies such as national defense industry and microelectronics industry requires precision and ultra-precision instruments and equipment, and high-speed precision instruments and equipment……. (Times New Roman, 12pt; Paragraph Line Spacing: 1.25 line, Indent the first line by 2 characters)
……

1.2 Development of Gas Lubricated Bearings

Gas bearing is a mechanical component which supports load or reduces friction by gas film…….
……

1.2.1 Development of Gas Lubricated Bearings (Times New Roman, 14pt, Bold; Paragraph Line Spacing: 1.35 line, before 0.5 line, after 0.5 line)

In 1828, R.R. Willis [3] published an article on pressure distribution in orifice throttle plates, which is the earliest recorded literature on gas lubrication…….

1.2.5 Study on Porous Gas Hydrostatic Bearing

Because of the low pressure and compressibility of gases …….

1.2.5.1 Classification of Hydrostatic Bearing (Times New Roman, 12pt, Bold; Paragraph Line Spacing: 1.25 line, before 0.5 line)
The Porous Hydrostatic Bearings can be classified as……..

1.2.5.2 Study on the Properties of Porous Materials
The main characteristic of the material is that it has a certain degree of....
(1) Porous materials with porous properties are made up of……

Chapter 4   Research on Bearing Static Characteristics Based on FLUENT Software

4.1 Introduction

Using existing commercial software to study flow field can avoid solving N-S equation program.......

......

4.2.3 The Setting of Boundary Conditions

In this paper, we adopt... In each direction... From the following two formulas：

$$\phi = \frac{D_p^2}{150} \frac{\psi^3}{(1-\psi)^2} \tag{4-1}$$

$$C_2 = \frac{3.5}{D_p} \frac{(1-\psi)}{\psi^3} \tag{4-2}$$

In formula D_p——Average particle diameter of porous materials (m)；

ψ ——Porosity (Pore volume as a percentage of total volume)；

ϕ——Characteristic permeability or intrinsic permeability, related to the structural properties of materials (m^2)。

......

4.3.3 Analysis of FLUENT simulation results

Figure 4-6 shows the pressure distribution in the local porous cylinder plunger and in the gas film when the radius of the local porous cylinder is different. The radii are RR = 1.5mm, 2.5mm, 3.5mm and 4.5mm, respectively. From Fig. 4-6, it can be seen that the throttling effect is very different because of the different throttling radius. Among them, the throttling effect with small radius is obvious. The pressure change corresponding to Fig. 4-6a is the most obvious, while the change of Fig. 4-6d is very small, which results in a great difference in the pressure distribution in the gas film. Thus, the bearing capacity is greatly improved with the increase of radius.
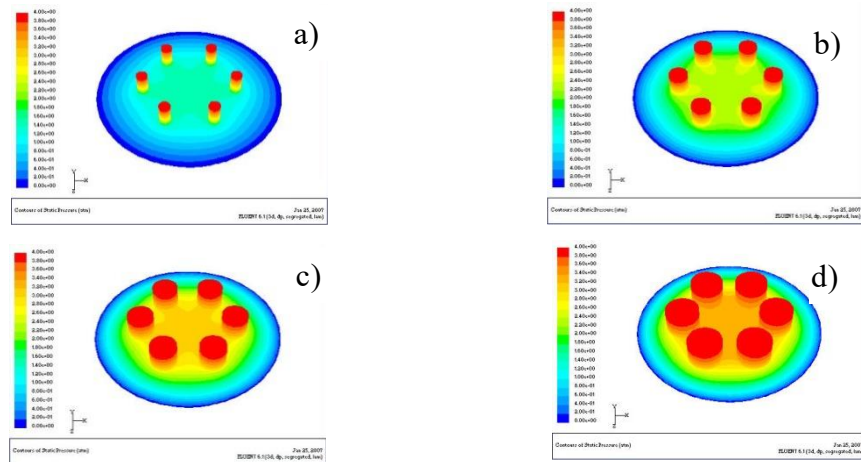
Fig.4-6 Pressure contour of bearing with partial porous plunger different radiuses

a) Pressure contour of bearing when R_3 =1.5mm, b) Pressure contour of bearing when R_3 =2.5mm

c) Pressure contour of bearing when R_3 =3.5mm, d) Pressure contour of bearing when R_3 =4.5mm

(Times New Roman 10.5pt. The title of the figure should be set at the buttom of figures. Before the title, tag need to be set, example: "Fig 4-6")
(You can also write in the following illustration)

a) Pressure contour of bearing when R_3 =1.5mm

b) Pressure contour of bearing when R_3 =2.5mm

c) Pressure contour of bearing when R_3 =3.5mm
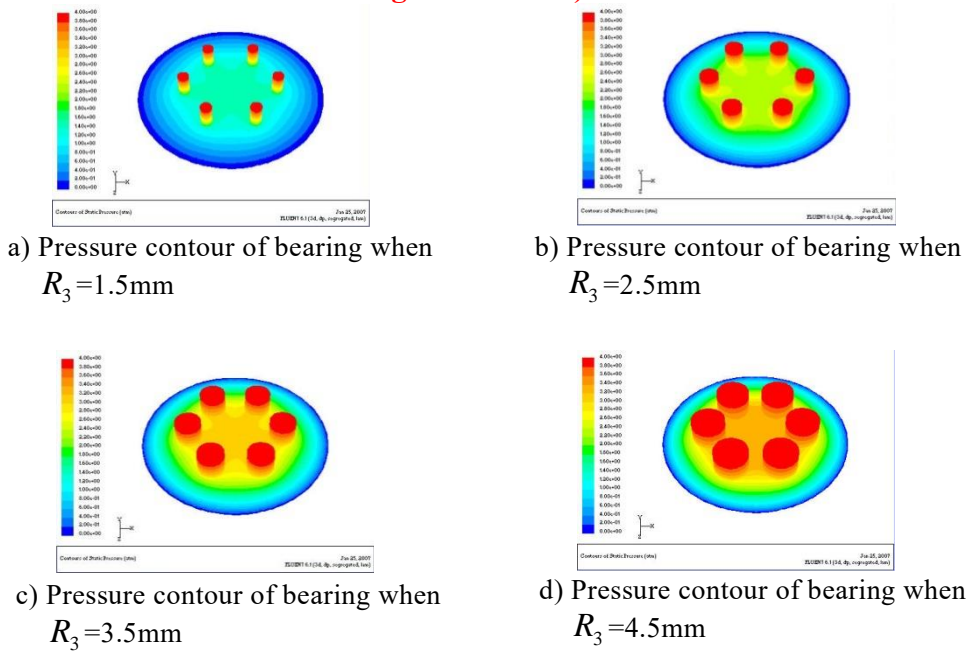

d) Pressure contour of bearing when R_3 =4.5mm

Fig.4-6 Pressure contour of bearing with partial porous plunger different radiuses

……

4.4 Conclusion

……

Chapter 6   Experimental study on partial porous hydrostatic bearings

6.1 Introduction

In the preceding chapters, the permeability of locally porous materials is studied, respectively……

6.2 Porous graphite permeability test

……

The experimental data of sample No. 1 is shown in the table. 6-1。

Table 6-1 Data of measured permeability of sample 1

(Temperature: T=16℃   Height: H=5.31mm)

Gas supply pressure Ps (MPa)	Flow measurement M' (m³/h)	Flow correction value M (m³/s) ×10⁻⁴	Pressure difference ΔP (Pa)	lg ΔP	lg$M$
0.15	0.009	0.02312	46900	4.67117	-5.63601
0.2	0.021	0.04584	96900	4.98632	-5.33876
0.25	0.039	0.07413	146900	5.16702	-5.13001
0.3	0.097	0.16747	196900	5.29424	-4.77606
0.35	0.136	0.21753	246900	5.39252	-4.66248
0.4	0.171	0.25485	296900	5.47261	-4.59372
0.45	0.202	0.28467	346900	5.54020	--

……

6.5 Conclusion

……

Times New Roman 10.5pt, the table need to be the standard three-lines table, title need to set on the top of table. Before the title, tag need to be set, example: "Table 6-1"

Chapter 7   Conclusion and Prospect

The conclusion of the dissertation is arranged separately as the last chapter of the main body of the dissertation.

The conclusion is a summary of the main results of the whole paper. In conclusion, we should clearly point out the creative achievements or innovative point theory (including new ideas and new viewpoints) of this research content, and point out the prospects and assumptions for further research work in this research direction in the future, and do not write the conclusion as a summary of the paper.

References

[1]毛峡．绘画的音乐表现[A]．中国人工智能学会 2001 年全国学术年会论文集 [C]．北京：北京邮电大学出版社,2001:739-740

[2]张和生．地质力学系统理论[D]．太原：太原理工大学,1998

[3]毛峡,丁玉宽.图像的情感特征分析及其和谐感评价[J].电子学报,2001,29(12A): 1923-1927

[4]Quagliano L G，Nather H．Up conversion of luminescence via deep centers in high purity GaAs and GaAlAs epitaxial layers[J]. Applied Physics Letters, 1984, 45(5):555.

[5] Quagliano L G，Nather H．Up conversion of luminescence via deep centers in high purity GaAs and GaAlAs epitaxial layers[J]. Applied Physics Letters, 1984, 45(5):555.

…………

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Papers and other achievements published during doctoral studies

1.   Published academic papers

［1］×××，×××．部多孔质气体静压轴向轴承静态特性的数值求解［J］．摩擦学学报，2007，38(12)：68~72(EI 收录号：071510544816)

［2］

2.   Patents applied for and obtained (this need not be listed in the absence of patents)

3.   Science and technology awards (not listed when no award is awarded)

Note: If published academic papers are included in EI or SCI, please indicate the number of the papers included and the influencing factors of SCI papers. For academic papers received but not published, please indicate whether they are sources of EI or SCI.

SimSun(宋体)、Times New Roman，12pt，spacing line：1.25 line.

Scientific Research Work During Doctoral Degree Study

[1]

[2]

(Times New Roman, 12pt; Paragraph Line Spacing: 1.25 line, Indent the first line by 2 characters)

Acknowledgement

    I sincerely thank my mentor, Professor XXX, for his meticulous guidance. His words and deeds will benefit me all my life.

    Thank you, Professor XXX, and all the teachers and students in the laboratory for their enthusiastic help and support!

    Thank you for your financial support for this project.

(Times New Roman, 12pt; Paragraph Line Spacing: 1.25 line, Indent the first line by 2 characters)

Author's Brief Introduction

The year * month * day comes from * year * month * day.

The students were admitted to * University * Department * specialty * and graduated from * University * year * month undergraduate course and received * bachelor's degree.

He studied in * University * College (department) * subject and obtained * master's degree.

He studied in * University * Department * discipline and obtained * doctorate degree.

Award winners:

Working experience:

(Times New Roman, 12pt; Paragraph Line Spacing: 1.25 line, Indent the first line by 2 characters)

(The author's brief should generally include educational experience and work experience.)