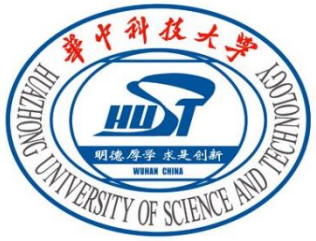



# 科技论文写作

## （二）参考文献

人工智能与自动化学院

谭 山

shantan@hust.edu.cn

2024年6月11日

# 参考文献

采用规范化的著录形式： 统一标准的书写符号、标注方法和书写次序

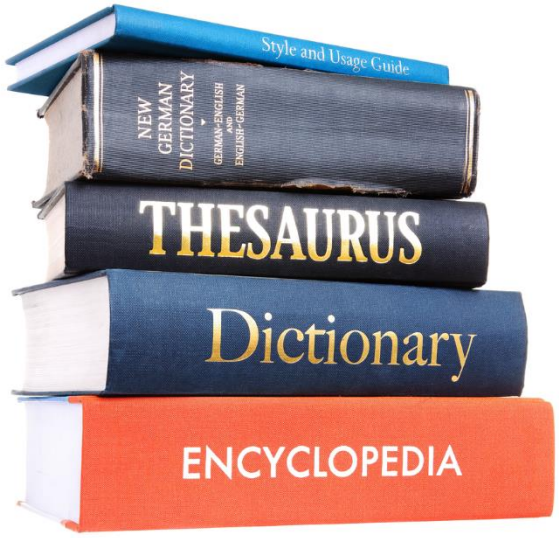
**中文**：

中国国家标准：GB/T 7714-2015《信息与文献 参考文献著录规则》（老标准：GB/T 7714-2005《文后参考文献著录规则》）

**外文**

参考文献规格应按出版社、编辑部格式 (APA style, IEEE style等)

# 中文论文中的参考文献


Style and Usage Guide
NEW GERMAN DICTIONARY
GERMAN-ENGLISH AND ENGLISH-GERMAN
THESAURUS
Dictionary
ENCYCLOPEDIA

# 文献类型标识/文献载体标识

根据国标3469-2013《信息资源的内容形式和媒体类型标识》规定，各类常用文献以单字母标识：

**常用文献以单字母标识**

M——专著（含古籍中的史、志论著）
C——论文集
N——报纸文章
J——期刊文章
D——学位论文
R——研究报告
S——标准
P——专利
A——专著、论文集中的析出文献
Z——其他未说明的文献类型

**电子文献类型以双字母作为标识**

DB——数据库
CP——计算机程序
EB——电子公告

**非纸张型载体电子文献，在参考文献标识中同时标明其载体类型**

DB/OL——联机网上的数据库
DB/MT——磁带数据库
M/CD——光盘图书
CP/DK——磁盘软件
J/OL——网上期刊
EB/OL——网上电子公告

ICS 01.140.20
A 14

# 中华人民共和国国家标准

GB/T 7714—2015
代替 GB/T 7714—2005

## 信息与文献　参考文献著录规则

**Information and documentation—Rules for bibliographic references and citations to information resources**

(ISO 690:2010, Information and documentation—Guidelines for bibliographic references and citations to information resources, NEQ)

http://std.samr.gov.cn/gb/search/gbDetailed?id=71F772D8055ED3A7E05397BE0A0AB82A

后面slice括号中的红色序号是相关信息在GB/T 7714-2015中出现的章节号。

## 目　次

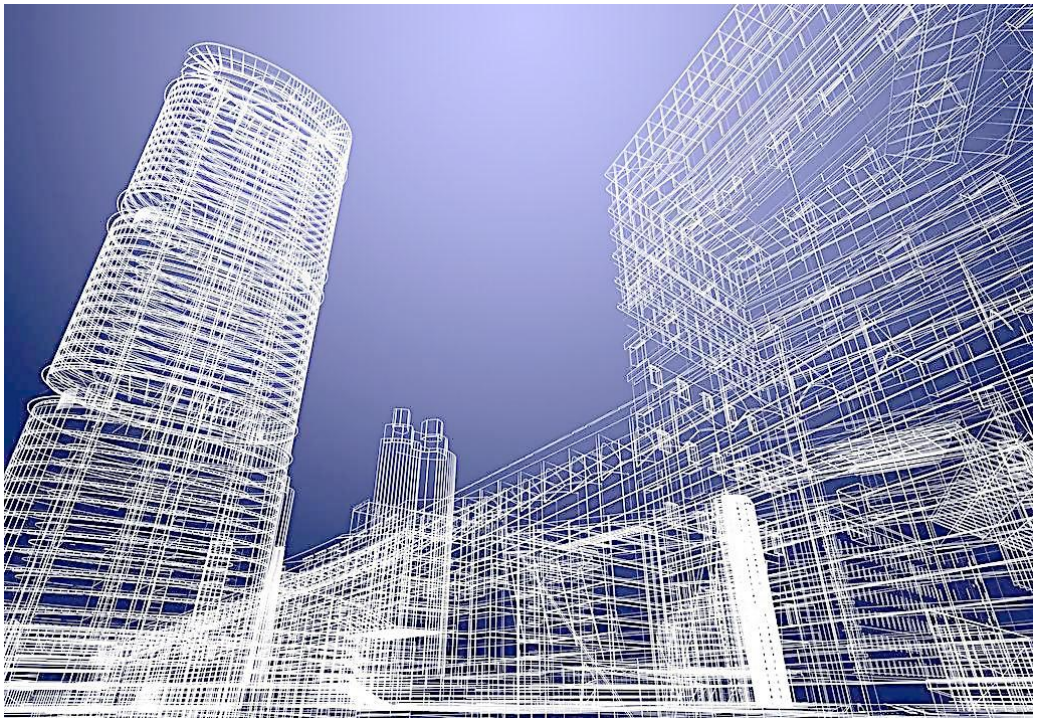
# (1). 范围

本标准规定了各个学科、各类型信息资源的参考文献的著录项目、著录顺序、著录用符号、著录用文字、各个著录项目的著录方法及参考文献在正文中的标注法。

**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# 著录项目与著录格式

- 参考文献分为专著、专著中的析出文献、连续出版物、连续出版物中的析出文献、专利文献、电子文献六类。



# (4.1) 专著

- 以单行本或多卷册（在限定的期限内出齐）形式出版的印刷型或非印刷型出版物，包括普通图书、古籍、学位论文、会议文集、汇编、标准、报告、多卷书、丛书等。
- **著录格式：**主要责任者. 题名: 其他题名信息[文献类型标识/文献载体标识](任选). 其他责任者](任选). 版本项. 出版地: 出版者，出版年: 引文页码[引用日期]. 获取和访问途径(电子资源必备). 数字对象唯一标识符(电子资源必备).
- **示例：**

[1] 哈里森，沃尔德伦. 经济数学与金融数学[M]. 谢远涛，译. 北京: 中国人民大学出版社，2012:235-236.

[2] 杨保军. 新闻道德论[D/OL]. 北京：中国人民大学出版社，2010[2012-11-01]. http://apabi.lib.pku.edu.cn/usp/pku/pub.mvc?pid=book.detail&metaid=m.20101104-BPO-889-1023&cult=CN.

**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# (4.2) 专著中的析出文献

- 专著中具有独立篇名的文献。
- 著录格式：析出文献主要责任者. 析出文献题名[文献类型标识/文献载体标识](任选). 析出文献其他责任者](任选)//专著主要责任者.专著题名: 其他题名信息. 版本项. 出版地: 出版者，出版年: 析出文献的页码[引用日期].获取和访问途径(电子资源必备). 数字对象唯一标识符(电子资源必备).

示例：

[1] 程根伟.1998年长江洪水的成因与减灾对策[M]//许厚泽，赵其国. 长江流域洪涝灾害与科技对策. 北京: 科学出版社，1999:32-36.

[2] ROBERSON J A, BURNESON E G. Drinking water standards, regulations and goals[M/OL]//American Water Works Association. Water quality & treatment: a handbook on drinking water. 6th ed. New York: McGraw-Hill, 2011:1.1-1.36[2012-12-10]. http://lib.myilibrary.com/Open.aspx?id=291430.

**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# (4.3) 连续出版物

- 通常载有年卷期号或年月日顺序号，并计划无限期连续出版发行的印刷或非印刷形式的出版物。
- 著录格式：主要责任者. 题名：其他题名信息[文献类型标识/文献载体标识](任选).年，卷（期）-年，卷（期）. 出版地: 出版者，出版年[引用日期].获取和访问途径(电子资源必备). 数字对象唯一标识符(电子资源必备).

示例：

[1]中国医学会湖北分会. 临床内科杂志[J]. 1984,1(1)-. 武汉: 中华医学会湖北分会，1984-.

[2]中国图书馆学会. 图书馆学通讯[J]. 1957(1)-1990(4). 北京: 北京图书馆，1957-1990.

**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# (4.4) 连续出版物中的析出文献

- 连续出版物中具有独立篇名的文献。
- 著录格式：析出文献主要责任者. 析出文献题名[文献类型标识/文献载体标识](任选). 连续出版物题名: 其他题名信息，年，卷（期）: 页码[引用日期]. 获取和访问途径(电子资源必备). 数字对象唯一标识符(电子资源必备).

示例：

[1]袁训来，陈哲，肖书海，等. 蓝田生物群: 一个认识多细胞生物起源和早期演化的新窗口[J]. 科学通报，2012，55(34):3219.

[2] 李炳穆. 韩国图书馆法[J/OL]. 图书情报工作，2008,52(6): 6-12[2013-10-25].http://www.docin.com/p-400265742.html.

**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# (4.5) 专利文献

- 专利申请者或所有者. 专利题名: 专利号[文献类型标识/文献载体标识](任选). 公告日期或公开日期[引用日期]. 获取和访问途径(电子资源必备). 数字对象唯一标识符(电子资源必备).

示例：

[1]邓一刚. 全智能节电器:200610171314.3[P]. 2006-12-13.

[2]西安电子科技大学. 光折变自适应光外差探测方法:01128777.2[P/OL]. 2002-03-05[2002-05-28].http://211.152.9.47/sipoasp/zljs/hyjs-yx-new.asp?recid=01128777.2&leixin=0.

**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# (4.6) 电子资源

- 凡属电子专著、电子专著中的析出文献、电子连续出版物、电子连续出版物中的析出文献以及电子专利的分别按照4.1~4.5中有关规则处理。除此而外的电子资源根据本规则著录。
- **著录格式：**主要责任者. 题名：其他题名信息[文献类型标识/文献载体标识](任选). 出版地: 出版者，出版年: 引文页码（更新或修改日期）[引用日期]. 获取和访问途径. 数字对象唯一标识符.

示例：

[1] 中国互联网信息中心. 第29次中国互联网发展现状统计报告[R/OL].( 2012-01-16)[2013-03-26].http://www.cnnic.net.cn/hlwfzyj/hlwxzbg/201201/P020120709345264696 80.pdf

[2] Online Computer Library Center, Inc. About OCLC: history of cooperation [EB/OL]. [2012-03-27]. http://www.oclc.org/about/cooperation.en.html.

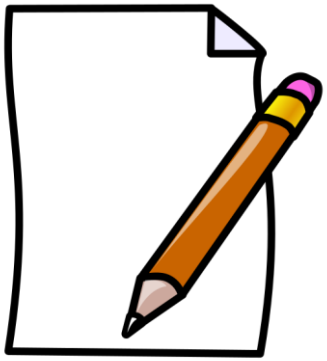
**GB/T 7714-2015《信息与文献 参考文献著录规则》**

# (9). 参考文献表

- 参考文献表可以按照顺序编码制组织，也可以按著者-出版年制组织。引文参考文献既可以集中著录在文后或书末，也可以分散著录在页下端。阅读型参考文献著录在文后、书的各章节后或书末。
- (9.1) **顺序编码制**：各篇文献应按正文部分标注的序号依次列出。
- (9.2) **著者-出版年制**：中文文献可以按著者汉语拼音字顺排列，也可以按著者的笔画笔顺排列。

# (10) 参考文献标注法

正文中引用的文献的标注方法可以采用顺序编码制，也可采用著者-出版年制。



# (10.1)顺序编码制

按正文中引用的文献出现的先后顺序连续编码，将序号置于方括号中。

（1）引用单篇文献，序号置于方括号中。

示例 1：引用单篇文献，序号置于方括号中

……德国学者 N.克罗斯研究了瑞士巴塞尔市附近侏罗山中老第三纪断裂对第三系褶皱的控制[235]；之后，他又描述了西里西亚第 3 条大型的近南北向构造带，并提出地槽是在不均一的块体的基底上发展的思想[236]。

……

（2）同一处引用多篇文献时，应将各篇文献的序号在方括号内全部列出，各序号间用“，”。如遇连续序号，起讫序号间用短横线连接。

示例：引用多篇文献

裴伟[570,83]提出……

莫拉德对稳定区的节理格式的研究[255-256]……

（3）多次引用同一著者的同一文献时，在正文中标注首次引用的文献序号，并在序号的“[ ]”外著录引文页码。

示例 1：多次引用同一著者的同一文献的序号

……改变社会规范也可能存在类似的“二阶囚徒困境”问题：尽管改变旧的规范对所有人都好，但个人理性选择使得没有人愿意率先违反旧的规范[1]。……事实上，古希腊对轴心时代思想真正的贡献不是来自对民主的赞扬，而是来自对民主制度的批评，苏格拉底、柏拉图和亚里士多德 3 位贤圣都是民主制度的坚决反对者[2]260。……柏拉图在西方世界的影响力是如此之大以至于有学者评论说，一切后世的思想都是一系列为柏拉图思想所作的脚注[3]。……据《唐会要》记载，当时拆毁的寺院有 4 600 余所，招提、兰若等佛教建筑 4 万余所，没收寺产，并强迫僧尼还俗达 260 500 人。佛教受到极大的打击[2]326-329。……陈登原先生的考证是非常精确的，他印证了《春秋说题辞》“黍者绪也，故其立字，禾入米为黍，为酒以扶老，为酒以序尊卑，禾为柔物，亦宜养老”，指出：“以上谓等威之辨，尊卑之序，由于饮食荣辱。”[4]

参考文献：

[1] SUNSTEIN C R. Social norms and social roles[J/OL]. Columbia law review, 1996, 96: 903 [2012-01-26]. http://www.heinonline.org/HOL/Page?handle=hein.journals/clr96&id=913&collection=journals&index=journals/clr.

[2] MORRI I. Why the west rules for now: the patterns of history, and what they reveal about the future[M]. New York: Farrar, Straus and Giroux, 2010.

[3] 罗杰斯. 西方文明史：问题与源头[M]. 潘惠霞，魏婧，杨艳，等译. 大连：东北财经大学出版社，2011：15-16.

[4] 陈登原. 国史旧闻：第 1 卷[M]. 北京：中华书局，2000：29.

# (10.2)著者-出版年制

各篇文献的标注内容由著者姓氏与出版年构成，并置于“（ ）”内。

**示例： 引用单篇文献**

The notion of an invisible college has been explored in the sciences (Crane, 1972). Its absence among historians was noted by Stieg (1981)…

**参考文献：**

CRANE D, 1972. Invisible college[M]. Chicago: Univ. of Chicago Press.

Stieg M F, 1981. The information needs of historians[J]. College and research libraries, 42(6):549-560.

# (10.2)著者-出版年制

（1）正文中引用多著者文献时，对欧美著者只需标注第一个著者的姓，其后附“et al.”；对于中国著者应标注第一著者的姓名，其后附“等”字。姓氏与“et al.”“等”之间留适当空隙。

（2）在参考文献表中著录同一著者在同一年出版的多篇文献时，出版年后应用小写字母a, b, c……区别。

（3）多次引用同一著者的同一文献，在正文中标注著者与出版年，并在“（）”外以角标的形式著录引文页码。

示例：多次引用同一著者的同一文献

主编靠编辑思想指挥全局已是编辑界的共识(张忠智，1997)，然而对编辑思想至今没有一个明确的界定，故不妨提出一个构架……参与讨论。由于“思想”的内涵是“客观存在反映在人的意识中经过思维活动而产生的结果”(中国社会科学院语言研究所词典编辑室，1996)[1194]，所以“编辑思想”的内涵就是编辑实践反映在编辑工作者的意识中，“经过思维活动而产生的结果”。……《中国青年》杂志创办人追求的高格调——理性的成熟与热点的凝聚(刘彻东，1998)，表明其读者群的文化的品位的高层次……“方针”指“引导事业前进的方向和目标”(中国社会科学院语言研究所词典编辑室，1996)[235]。……对编辑方针，1981 年中国科协副主席裴丽生曾有过科学的论断——“自然科学学术期刊应坚持以马列主义、毛泽东思想为指导，贯彻为国民经济发展服务，理论与实践相结合，普及与提高相结合，‘百花齐放，百家争鸣’的方针。”(裴丽生，1981)它完整地回答了为谁服务，怎样服务，如何服务得更好的问题。

……

**参考文献：**

裴丽生，1981. 在中国科协学术期刊编辑工作经验交流会上的讲话[C]//中国科学技术协会. 中国科协学术期刊编辑工作经验交流会资料选. 北京：中国科学技术协会学会工作部：2-10.

刘彻东，1998. 中国的青年刊物：个性特色为本[J]. 中国出版(5)：38-39.

张忠智，1997. 科技书刊的总编(主编)的角色要求[C]//中国科学技术期刊编辑学会. 中国科学技术期刊编辑学会建会十周年学术研讨会论文汇编. 北京：中国科学技术期刊编辑学会学术委员会：33-34.

中国社会科学院语言研究所词典编辑室，1996. 现代汉语词典[M]. 修订本. 北京：商务印书馆.

……

ICS 01.140.20
A 14

# 中华人民共和国国家标准

GB/T 7714—2015
代替 GB/T 7714—2005

## 信息与文献　参考文献著录规则

**Information and documentation—Rules for bibliographic references and citations to information resources**

(ISO 690:2010, Information and documentation—Guidelines for bibliographic references and citations to information resources, NEQ)

http://std.samr.gov.cn/gb/search/gbDetailed?id=71F772D8055ED3A7E05397BE0A0AB82A

后面slice括号中的红色序号是相关信息在GB/T 7714-2015中出现的章节号。

## 目　次

# A.1 普通图书

[1] 广西壮族自治区林业厅. 广西自然保护区[M]. 北京：中国林业出版社，1993.

[2] 蒋有绪，郭泉水，马娟，等. 中国森林群落分类及其群落学特征[M]. 北京：科学出版社，1998.

[3] 唐绪军. 报业经济与报业经营[M]. 北京：新华出版社，1999：117-121.

[4] 赵凯华，罗蔚茵. 新概念物理教程: 力学[M]. 北京：高等教育出版社，1995.

[5] 汪昂. (增补)本草备要[M]. 石印本. 上海：同文书局，1912.

[6] CRAWFPRD W, GORMAN M. Future libraries: dreams, madness, & reality[M]. Chicago: American Library Association, 1995.

[7] International Federation of Library Association and Institutions. Names of persons: national usages for entry in catalogues[M]. 3rd ed. London: IFLA International Office for UBC, 1977.

[8] O’BRIEN J A. Introduction to information systems[M]. 7th ed. Burr Ridge, III.: Irwin, 1994.

[9] ROOD H J. Logic and structured design for computer programmers[M]. 3rd ed. [S.1. ]: Brooks/Cole Thomson Learning, 2001.

# A.2 论文集、会议录

[1] 中国力学学会. 第3届全国实验流体力学学术会议论文集[C]. 天津：[出版者不详]，1990.

[2] ROSENTHALL E M. Proceedings of the Fifth Canadian Mathematical Congress, University of Montreal, 1961[C]. Toronto: University of Toronto Press, 1963.

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# A.3 科技报告

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[2] World Health Organization. Factors regulating the immune response: report of WHO Scientific Group[R]. Geneva: WHO, 1970.

# A.4 学位论文

[1] 张志祥. 间断动力系统的随机扰动及其在守恒律方程中的应用[D]. 北京：北京大学数学学院，1998.

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# A.5 专利文献

[1] 刘加林. 多功能一次性压舌板：中国，92214985. 2[P]. 1993-04-14.

[2] 河北绿洲生态环境科技有限公司. 一种荒漠化地区生态植被综合培育种植方法：中国，01129210.5[P/OL]. 2001-10-24[2002-05-28].

[3] KOSEKI A, MOMOSE H, KAWAHITO M, et al. Compiler: US, 828402[P/OL]. 2002-05 -25[2002-05-28].

# A.6 专著中析出的文献

[1] 国家标准局信息分类编码研究所. GB/T 2659-1986世界各国和地区名称代码[S]//全国文献工作标准化技术委员会. 文献工作国家标准汇编：3. 北京：中国标准出版社，1988：59-92.

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# A.7 期刊中析出的文献

[1] 李炳穆. 理想的图书馆员和信息专家的素质与形象[J]. 图书情报工作，2000（2）：5-8.

[2] 陶仁骥. 密码学与数学[J]. 自然杂志，1984，7（7）：527.

[3] 习亚洲地质图编目组. 亚洲地层与地质历史概述[J]. 地质学报，1978，3：194-208.

[4] DES MARAIS D J, STRAUSS H, SUMMONS R E, et al. Carbon isotope evidence for the stepwise oxidation of the Proterozoic environment[J]. Nature, 1992, 359: 605-609.

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# A.8 报纸中析出的文献

[1] 丁文祥. 数字革命与竞争国际化[N]. 中国青年报，2000-11-20(15).

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# A.9 电子文献（包括专著或连续出版物中析出的电子文献）

[1] 江向东. 互联网环境下的信息处理与图书管理系统解决方案[J/OL]. 情报学报，1999，18（2）：4[2000-01-18].

[2] 萧钮. 出版业信息化迈人快车道[EB/OL]. (2001-12-19) [2002-04-15].

[3] CHRISTINE M. Plant physiology: plant biology in the Genome Era[J/OL]. Science, 1998, 281:331-332[1998-09-23].

[4] METCALF S W. The Tort Hall air emission study[C/OL]//The International Congress on Hazardous Waste, Atlanta Marriott Marquis Hotel, Atlanta,Georgia, June 5-8, 1995: impact on human and ecological health[1998-09-22].

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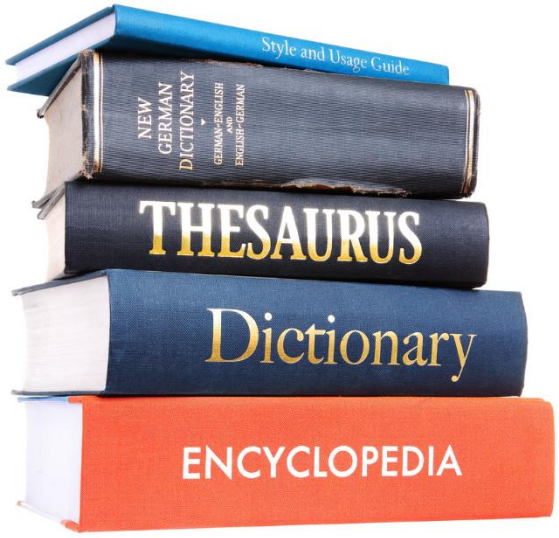
# 英文论文中的参考文献


Style and Usage Guide
NEW GERMAN DICTIONARY
GERMAN-ENGLISH AND ENGLISH-GERMAN
THESAURUS
Dictionary
ENCYCLOPEDIA

# Citation style

There are many different ways of citing resources from your research. The citation style sometimes depends on the academic discipline involved.

For example:

- **APA (American Psychological Association)** is used by Education, Psychology, and Sciences
- **MLA (Modern Language Association)** style is used by the Humanities
- **Chicago style** is generally used by Business, History, and the Fine Arts
- **IEEE style**: engineering

* 投稿前，你需要了解相关期刊或者会议论文集对引用格式的要求。方法：查阅期刊或者会议的Guide for Authors, 下载期刊或者会议论文的专用模板、Latex style文档、Endnote参考格式文档等。

# APA Style

APA (American Psychological Association) Style originated in 1929, when a group of psychologists, anthropologists, and business managers convened and sought to establish a simple set of procedures, or style rules, that would codify the many components of scientific writing to increase the ease of reading comprehension.

AMERICAN PSYCHOLOGICAL ASSOCIATION

# In-text Citation with APA

Three kinds of information to be included in in-text citations:

1. **Author's last name**
2. The work's **date of publication**

（must match exactly the corresponding entry in the references list）.

....(Crockatt, 1995).

3. **The page number**, appears only in a citation to a direct quotation.

"The potentially contradictory nature of Moscow's priorities surfaced first in its policies towards East Germany and Yugoslavia," (Crockatt, 1995, p. 1).

# In-text Citation with APA

Examples:

- According to Currie (2001), there is a great deal of evidence to suggest that early intervention programs can be effective.
- Research suggests that the absence of behavior problems is just as important to future success as the development of cognitive skills (Currie, 2001, p. 215).
- According to Currie (2001), “the difficulty of overcoming poor endowments later in life—through job training programs for high school dropouts, for example—makes early intervention appear attractive as well” (p. 216).

# Reference List

- The reference list must include all references cited in the text of your paper.
- **Order:** The references are arranged alphabetically, by the last name of the first author or, if author is not available - by title. Ignore the words A, An, and The when ordering by title.

| Material Type | Reference List/Bibliography |
|---|---|
| A book in print | Baxter, C. (1997). Race equality in health care and education. Philadelphia: Balli ère Tindall. |
| A book chapter, print version | Haybron, D. M. (2008). Philosophy and the science of subjective well-being. In M. Eid & R. J. Larsen (Eds.), The science of subjective well-being (pp. 17-43). New York, NY: Guilford Press. |
| An eBook | Millbower, L. (2003). Show biz training: Fun and effective business training techniques from the worlds of stage, screen, and song. Retrieved from http://www.amacombooks.org/ |
| An article in a print journal | Alibali, M. W. (1999). How children change their minds: Strategy change can be gradual or abrupt. Developmental Psychology, 35, 127-145. |
| An article in a journal without DOI | Carter, S., & Dunbar-Odom, D. (2009). The converging literacies center: An integrated model for writing programs. Kairos: A Journal of Rhetoric, Technology, and Pedagogy, 14(1), 38-48. Retrieved from http://kairos.technorhetoric.net/ |
| An article in a journal with DOI | Gaudio, J. L., & Snowdon, C. T. (2008). Spatial cues more salient than color cues in cotton-top tamarins (saguinus oedipus) reversal learning. Journal of Comparative Psychology, 122, 441-444. doi: 10.1037/0735-7036.122.4.441 |

# Chicago Style

- Chicago is a documentation style that has been published by the Chicago University Press since 1906.
- Typically, Chicago style presents two basic documentation systems: (1) notes and bibliography and (2) author-date. Choosing between the two often depends on subject matter and the nature of sources cited, as each system is favored by different groups of scholars.

THE UNIVERSITY OF CHICAGO

- The **author-date style** has long been used by those in the physical, natural, and social sciences.
- In this system, sources are briefly cited in the text, usually in parentheses, by author's last name and date of publication.

| Author/Date Style | In-text Citation | Bibliography |
|---|---|---|
| A book | (Pollan 2006, 99–100) | Pollan, Michael. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin. |
| An article in a print journal | (Weinstein 2009, 440) | Weinstein, Joshua I. 2009. "The Market in Plato's *Republic*." *Classical Philology* 104:439–58. |
| An article in an electronic journal | (Kossinets and Watts 2009, 411) | Kossinets, Gueorgi, and Duncan J. Watts. 2009. "Origins of Homophily in an Evolving Social Network." *American Journal of Sociology* 115:405–50. Accessed February 28, 2010. doi:10.1086/599247. |
| A website | (Google 2009) | Google. 2009. "Google Privacy Policy." Last modified March 11. http://www.google.com/intl/en/privacypolicy.html |

# IEEE Style

- The Institute for Electrical and Electronics Engineers (IEEE) is a professional organization supporting many branches of engineering, computer science, and information technology. In addition to publishing journals, magazines, and conference proceedings, IEEE also makes many standards for a wide variety of industries.
- IEEE citation style includes in-text citations, numbered in square brackets, which refer to the full citation listed in **the reference list** at the end of the paper. The reference list is organized numerically, not alphabetically. For examples, see the IEEE Editorial Style Manual.

https://journals.ieeeauthorcenter.ieee.org/your-role-in-article-production/ieee-editorial-style-manual/

# In-text Citing

- Refer to the source (参考文献) with a number in a square bracket, e.g. [1], that will then correspond to the full citation in your reference list.
- Place bracketed citations within the line of text, before any punctuation (标点), with a space before the first bracket.
- Number your sources (参考文献) as you cite them in the paper. Once you have referred to a source and given it a number, continue to use that number as you cite that source throughout the paper.
- When citing multiple sources (参考文献) at once, the preferred method is to list each number separately, in its own brackets, using a comma or dash between numbers, as such: [1], [3], [5] or [1] - [5].

- **The Reference List appears at the end of your paper** and provides the full citations for all the references you have used. List all references numerically in the order they've been cited within the paper, and include the bracketed number at the beginning of each reference.
- The author's name is listed as first initial + last name. Example: Shan Tan would be cited as S. Tan (NOT Tan S., Shan T. ).
- The title of an article is listed in quotation marks.
- The title of a journal or book is listed in italics.

[1] T. Sun, N. Sun, J. Wang, and S. Tan, "Iterative CBCT reconstruction using Hessian penalty," *Physics in medicine and biology*, vol. 60, pp. 1965-1987, Feb 12 2015.

# CITING REFERENCES

When References are cited in the text, they appear on the line, **in square brackets**, **inside the punctuation**. Grammatically, they may be treated as if they were footnote numbers, e.g.:

as shown by Brown [4], [5]; as mentioned earlier [2], [4]–[7], [9]; Smith [4] and Brown and Jones [5]; Wood *et al.* [7]

NOTE: Use *et al*. when three or more names are given for a reference cited in the text.

http://journals.ieeeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Reference-Guide.pdf

# More Examples of in-text citations:

1. "...end of the line for my research [13]."
2. "This theory was first put forward in 1987 [1]."
3. "Scholtz [2] has argued that..."
4. "Several recent studies [3], [4], [15], [16] have suggested that...."
5. "For example, see [7]."

# IEEE STYLE

- Reference numbers are set flush left and form a column of their own, hanging out beyond the body of the reference.
- The reference numbers are on the line, enclosed in square brackets.


vol. 23, p. 947, 2007.

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[3] S. Tan and L. Jiao, "Multivariate statistical models for image denoising in the wavelet domain," *International Journal of Computer Vision,* vol. 75, pp. 209-230, 2007.

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[18] Q. Shi, N. Sun, T. Sun, J. Wang, and S. Tan, "Structure-adaptive CBCT reconstruction using weighted total variation and Hessian penalties," *Biomedical optics express,* vol. 7, pp. 3299-3322, 2016.

[19] K. Bredies, K. Kunisch, and T. Pock, "Total Generalized Variation," *Siam Journal on Imaging Sciences,* vol. 3, pp. 492-526, 2010.

[20] M. Lysaker and X.-C. Tai, "Iterative image restoration combining total variation minimization and a second-order functional," *International journal of computer vision,* vol. 66, pp. 5-18, 2006.

[21] K. Papafitsoros and C.-B. Schönlieb, "A combined first and second order variational approach for image reconstruction," *Journal of mathematical imaging and vision,* vol. 48, pp. 308-338, 2014.

[22] V. Estellers, S. Soatto, and X. Bresson, "Adaptive regularization with the structure tensor," *IEEE Transactions on Image Processing,* vol. 24, pp. 1777-1790, 2015.

## A. Books

*Basic Format:*

- J. K. Author, "Title of chapter in the book," in *Title of His Published Book, x*th ed. City of Publisher, (only U.S. State), Country: Abbrev. of Publisher, year, ch. *x*, sec. *x*, pp. *xxx–xxx*.

*Examples:*

- B. Klaus and P. Horn, *Robot Vision*. Cambridge, MA, USA: MIT Press, 1986.
- L. Stein, "Random patterns," in *Computers and You,* J. S. Brake, Ed. New York, NY, USA: Wiley, 1994, pp. 55–70.
- R. L. Myer, "Parametric oscillators and nonlinear materials," in *Nonlinear Optics*, vol. 4, P. G. Harper and B. S. Wherret, Eds. San Francisco, CA, USA: Academic, 1977, pp. 47–160.
- M. Abramowitz and I. A. Stegun, Eds., *Handbook of Mathematical Functions* (Applied Mathematics Series 55). Washington, DC, USA: NBS, 1964, pp. 32–33.
- E. F. Moore, "Gedanken-experiments on sequential machines," in *Automata Studies* (Ann. of Math. Studies, no. 1), C. E. Shannon and J. McCarthy, Eds. Princeton, NJ, USA: Princeton Univ. Press, 1965, pp. 129–153.
- Westinghouse Electric Corporation (Staff of Technology and Science, Aerospace Div.), *Integrated Electronic Systems*. Englewood Cliffs, NJ, USA: Prentice-Hall, 1970.
- M. Gorkii, "Optimal design," *Dokl. Akad. Nauk SSSR*, vol. 12, pp. 111-122, 1961 (Transl.: in L. Pontryagin, Ed., *The Mathematical Theory of Optimal Processes.* New York, NY, USA: Interscience, 1962, ch. 2, sec. 3, pp. 127–135).
- A. Histace, "Image restoration—Recent advances and applications," in *Super-Resolution Restoration and Image Reconstruction for Passive Millimeter Wave Imaging*. Rijeka, Croatia: InTech, 2012, pp. 25–45.

**Conference Paper (Paper Presented at a Conference)**

*Basic Format:*

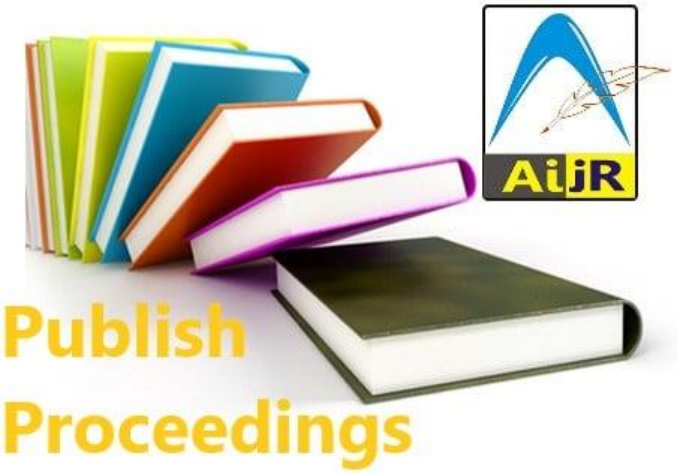
- J. K. Author, “Title of paper,” presented at the Abbreviated Name of Conf., City of Conf., Abbrev. State, Country, Month and day(s), year, Paper number.

*Examples:*

- D. Caratelli, M. C. Viganó, G. Toso, and P. Angeletti, “Analytical placement technique for sparse arrays,” presented at the 32nd ESA Antenna Workshop, Noordwijk, The Netherlands, Oct. 5–8, 2010.
- J. G. Kreifeldt, “An analysis of surface-detected EMG as an amplitude-modulated noise,” presented at the 1989 Int. Conf. Medicine and Biological Engineering, Chicago, IL, USA, Nov. 9–12, 1989.
- G. W. Juette and L. E. Zeffanella, “Radio noise currents on short sections on bundle conductors,” presented at the IEEE Summer Power Meeting, Dallas, TX, USA, Jun. 22–27, 1990, Paper 90 SM 690-0 PWRS.
- J. Arrillaga and B. Giessner, “Limitation of short-circuit levels by means of HVDC links,” presented at the IEEE Summer Power Meeting, Los Angeles, CA, USA, Jul. 12–17, 1990, Paper 70 CP 637.

- **Conference Proceedings in Print (Paper Presented at a Conference)**

The general form for citing conference proceedings is to list the author and title of the paper, followed by the name of the conference *in italics* using standard abbreviations. Write out all the remaining words, but omit most articles and prepositions like “of the” and “on.” That is, *Proceedings of the 1996 Robotics and Automation Conference* becomes *Proc. 1996 Robot. Automat. Conf.* If an ordinal number is in the conference name, use the numerical form instead of spelling it out (e.g., “1st” instead of “First”). Include the location if given. For U.S. locations, “USA” must be included after city and state.



*Basic Format:*

- J. K. Author, “Title of paper,” in *Abbreviated Name of Conf.*, (location of conference is optional), (Month and day(s) if provided) year, pp. *xxx-xxx.*

*Examples:*

- A. Amador-Perez and R. A. Rodriguez-Solis, “Analysis of a CPW-fed annular slot ring antenna using DOE,” in *Proc. IEEE Antennas Propag. Soc. Int. Symp.*, Jul. 2006, pp. 4301–4304.
- G. R. Faulhaber, “Design of service systems with priority reservation,” in *Conf. Rec. 1995 IEEE Int. Conf. Commun.*, pp. 3–8. *** *If the year is given in the conference title, it may be omitted from the end of the reference as shown here.****
- S. P. Bingulac, “On the compatibility of adaptive controllers,” in *Proc. 4th Annu. Allerton Conf. Circuit Syst. Theory*, New York, NY, USA, 1994, pp. 8–16.
- W. D. Doyle, “Magnetization reversal in films with biaxial anisotropy,” in *1987 Proc. INTERMAG Conf.*, pp. 2.2-1–2.2-6.
- C. T. Meadow and D. W. Waugh, “Computer assisted interrogation,” in *1991 Fall Joint Computer Conf., Proc. AFIPS Conf.*, vol. 29. Washington, DC, USA: Spartan, 1991, pp. 381–394.
- P. C. Parks, “Lyapunov redesign of model reference adaptive control systems,” in *1993 Joint Automatic Control Conf., Preprints*, pp. 485–491.
- T. S. Hsia, “System identification,” in *IEDM Tech. Dig.*, 1993, vol. 2, no. 8, pp. 6–13.

## K. Periodicals

Prior to 1988, the volume number of IEEE Transactions/Journals carried the acronym of the journal.

For example, an issue of the IEEE TRANSACTIONS ON AUTOMATIC CONTROL would read: *IEEE Trans. Automat. Contr.*, vol. AC- 26, no. 1, pp. 1–34, Jan. 1981.

**NOTE:** The only exception to this rule is PROCEEDINGS OF THE IEEE, which never carried an acronym on the masthead.

*Basic Format:*

- J. K. Author, "Name of paper," *Abbrev. Title of Periodical*, vol. *x*, no. *x*, pp. *xxx-xxx*, Abbrev. Month, year.
- J. K. Author, "Name of paper," *Abbrev. Title of Periodical*, vol. *x*, no. *x*, pp. *xxx-xxx*, Abbrev. Month, year, doi: *xxx*.

*Examples:*

- M. M. Chiampi and L. L. Zilberti, "Induction of electric field in human bodies moving near MRI: An efficient BEM computational procedure," *IEEE Trans. Biomed. Eng.*, vol. 58, pp. 2787–2793, Oct. 2011, doi: 10.1109/TBME.2011.2158315.
- M. Ito *et al*., "Application of amorphous oxide TFT to electrophoretic display," *J. Non-Cryst. Solids*, vol. 354, no. 19, pp. 2777–2782, Feb. 2008.
- R. Fardel, M. Nagel, F. Nuesch, T. Lippert, and A. Wokaun, "Fabrication of organic light emitting diode pixels by laser-assisted forward transfer," *Appl. Phys. Lett.*, vol. 91, no. 6, Aug. 2007, Art. no. 061103.
- J. Zhang and N. Tansu, "Optical gain and laser characteristics of InGaN quantum wells on ternary InGaN substrates," *IEEE Photon. J.*, vol. 5, no. 2, Apr. 2013, Art no. 2600111.
- S. Preu, G.H.Döhler, S.Malzer, L.J.Wang, and A. C. Gossard,"Tunable continuous-wave terahertz photo mixer sources and applications," *J. Appl. Phys.*, vol. 109, Mar. 2011, Art. no. 061301.
- S. Azodolmolky *et al*., Experimental demonstration of an impairment aware network planning and operation tool for transparent/translucent optical networks," *J. Lightw. Technol.*, vol. 29, no. 4, pp. 439–448, Sep. 2011.
- H. Eriksson and P. E. Danielsson, "Two problems on Boolean memories," *IEEE Trans. Electron. Devices*, vol. ED-11, no. 1, pp. 32–33, Jan. 1959.
- F. Aronowitz, "Theory of traveling-wave optical maser," *Phys. Rev.*, vol. 134, pp. A635–A646, Dec. 8, 1965.
- Ye. V. Lavrova, "Geographic distribution of ionospheric disturbances in the F2 layer," *Tr. IZMIRAN*, vol. 19, no. 29, pp. 31–43, 1961 (Transl.: E. R. Hope, Directorate of Scientific Information Services, Defence Research Board of Canada, Rep. T384R, Apr. 1963).
- E. P. Wigner, "On a modification of the Rayleigh–Schrodinger perturbation theory," (in German), *Math. Naturwiss. Anz. Ungar. Akad. Wiss.*, vol. 53, p. 475, 1935.

- E. H. Miller, "A note on reflector arrays," *IEEE Trans. Antennas Propag.*, to be published.*** *Always use this style when the paper has been accepted or scheduled for a future publication, and early access details are not available, i.e., do not use "to appear in."****
- F. Vatta, A. Soranzo, and F. Babich, "More accurate analysis of sum-product decoding of LDPC codes using a Gaussian approximation," *Commun. Lett.*, early access, Dec. 11, 2018. doi: 10.1109/TBME.2011.2158315. ****Always state if the paper is early access and include its online version date and doi. The doi is essential as it will not change, though the date may.****
- C. K. Kim, "Effect of gamma rays on plasma," submitted for publication. *** *Always use this style when the paper has not yet been accepted or scheduled for publication, i.e., do not use "to appear in."* ***
- W. Rafferty, "Ground antennas in NASA's deep space telecommunications," *Proc. IEEE*, vol. 82, no. 5, pp. 636-640, May 1994.
- P. Kopyt *et al.*, "Electric properties of graphene-based conductive layers from DC up to terahertz range," *IEEE THz Sci. Technol.*, to be published. doi: 10.1109/TTHZ.2016.2544142.
- T. Brunschwiler *et al*., "Formulation of percolating thermal underfills using hierarchical self-assembly of microparticles and nanoparticles by centrifugal forces and capillary bridging," *J. Microelectron. Electron. Packag.*, vol. 9, no. 4, pp. 149–159, 2012, doi: 10.4071/imaps.357.
- L. T. Wu *et al.*, "Real-time analytic sensitivity method for transient security assessment and prevent control," *Proc. Inst. Elect. Eng.*, vol. 135, pt. C, pp. 107-117, Mar. 1988. ****Authors may refer to this journal as Proc. IEE, but the abbreviation must be as listed above. Proc. IEE is printed in the U.K. and must not be confused with the Proc. IEEE.****
- *Special Issue on Artificial Neural Network Applications, Proc. IEEE*, vol. 84, pp. 1353-1576, Oct. 1996.

**Periodical in Early Access**

*Note:* Once an article is in the form of advanced online access at the publisher, cite this version, and not the ArXiv version. The online access is the final version of record. Include the title of the journal, the date of record, and the doi. The doi is essential in the reference information, as this will not change.

*Basic Format:*

- J. K. Author, "Name of paper," *Abbrev. Title of Periodical*., Abbrev. month, year. doi: *xxx*.

*Example:*

- F. Vatta, A. Soranzo, and F. Babich, "More accurate analysis of sum-product decoding of LDPC codes using a Gaussian approximation," *Commun. Lett.*, early access. doi: 10.1109/TBME.2011.2158315.

❖ **https://arxiv.org/**

arXiv is a free distribution service and an open-access archive for 1,691,884 scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics. Materials on this site are ***not peer-reviewed*** by arXiv.

❖ **https://www.biorxiv.org/**

bioRxiv (pronounced "bio-archive") is a free online archive and distribution service for unpublished preprints in the life sciences. It is operated by Cold Spring Harbor Laboratory, a not-for-profit research and educational institution. By posting preprints on bioRxiv, authors are able to make their findings immediately available to the scientific community and receive feedback on draft manuscripts before they are submitted to journals.

# 参考文献：书写标准

英文参考文献举例：

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combine the HS penalty family with the TV penalty in the future.

## APPENDIX

### A. Monotonicity of the MM Approach

It follows from Eq. (9) that

$$Q(u|u_t) \geq \Phi(u), \quad \forall u,$$

and

$$Q(u_t|u_t) = \Phi(u_t).$$

Let $u_{t+1}$ denote the minimizer of $Q(u|u_t)$, *i.e.*, $u_{t+1} = \arg\min_u Q(u|u_t)$. We had

$$\Phi(u_{t+1}) \leq Q(u_{t+1}|u_t) \leq Q(u_t|u_t) = \Phi(u_t).$$

In other words, the value of the objective function $\Phi(u)$ kept monotonically non-increasing in the MM iterative process.

### B. Proof of Lemma 1

For any pair of variables $\Omega, \hat{\Omega} \in R^{N\times3\times3}$, we have

$$\begin{aligned}
&\left|\nabla g(\Omega) - \nabla g\left(\hat{\Omega}\right)\right| = \left\|\tau H\left\{\begin{array}{l} P_{R^N}\left(z - \tau H^*\Omega\right) - \\ P_{R^N}\left(z - \tau H^*\hat{\Omega}\right)\end{array}\right\}\right\|_{R^{N\times3\times3}} \\
&\leq \left\|\tau H P_{R^N}\left(\tau H^*\Omega - \tau H^*\hat{\Omega}\right)\right\|_{R^{N\times3\times3}} \\
&\leq \tau^2 \|H\| \|H^*\| \left\|\Omega - \hat{\Omega}\right\|_{R^{N\times3\times3}} \\
&= \tau^2 \|H\|^2 \left\|\Omega - \hat{\Omega}\right\|_{R^{N\times3\times3}}.
\end{aligned}$$

The Lipschitz constant of $\nabla g(\Omega)$ can be $\tau^2\|H\|^2$ or larger than $\tau^2\|H\|^2$. To compute an upper bound of $\|H\|$, we utilized the relation that $\|H\|^2 = \|H^*H\|$:

$$\begin{aligned}
\left\|H^*Hu\right\|_{R^N} &= \left\|\left(\begin{array}{l}\Delta_{xx}^*\Delta_{xx} + \Delta_{yy}^*\Delta_{yy} + \Delta_{zz}^*\Delta_{zz} + \\ 2\Delta_{xy}^*\Delta_{xy} + 2\Delta_{xz}^*\Delta_{xz} + 2\Delta_{yz}^*\Delta_{yz}\end{array}\right)u\right\|_{R^N} \\
&\leq \left(\begin{array}{l}\|\Delta_{xx}\|^2 + \|\Delta_{yy}\|^2 + \|\Delta_{zz}\|^2 + \\ 2\|\Delta_{xy}\|^2 + 2\|\Delta_{xz}\|^2 + 2\|\Delta_{yz}\|^2\end{array}\right)\|u\|_{R^N}.
\end{aligned}$$

Without any loss of generalization, we assumed that all pixels of the CBCT image $u$ had been normalized to the range of [0,1]. From the definition of the second-order differential operator, each of $\|\Delta_{xx}\|$, $\|\Delta_{yy}\|$, $\|\Delta_{zz}\|$, $\|\Delta_{xy}\|$, $\|\Delta_{xz}\|$, and $\|\Delta_{yz}\|$ is equal to or smaller than 4. Therefore, an upper bound of the Lipschitz constant of $\nabla g(\Omega)$ can be $L \leq \tau^2\|H\|^2 \leq 144\tau^2$ for 3D CBCT reconstruction.

### C. Projection of a Matrix Onto the $B_{l_1}$ Unit-Norm Ball in 3D

Let $\sigma$ denote the singular value vector and $\omega$ denote the projection. The projection task can be formally described as the following optimization problem [39]:

$$\min_{\omega} \frac{1}{2}\|\omega - \sigma\|_2^2 \quad s.t. \sum_{l=1}^{3}\omega_l = 1, \omega_l \geq 0.$$

Using the Lagrangian of the above problem and KKT conditions, we can get $\omega_l = \max\{\sigma_l - \theta, 0\}$, where $\theta = \frac{1}{M}\left(\sum_{i=1}^{M} z_i - 1\right)$ and $M = \max\left\{z_j - \frac{1}{j}\left(\sum_{r=1}^{j} z_j - 1\right) > 0 : j = 1,2,3\right\}$, with $z$ denoting the vector obtained by sorting $\sigma$ in a descending order. The orthogonal projection of a matrix onto the $B_{l_1}$ unit-norm ball can be calculated using the operator $S_\gamma(\sigma(\Omega_l)) = \max(\sigma(\Omega_l) - \gamma, 0)$, with the threshold $\gamma$ defined in Eq. (27).

**Algorithm 1** Reconstruction Algorithm

Initialization: $u_0 = FDK(v)$, $k_0 = 1$, $k_0' = 1$, $c_0 = \Phi(u_0)$, $\Omega_0$, and $\Omega_0$ are both all 0's matrices in $R^{N\times3\times3}$.
Iteration:
  For $t = 1$: $T$ (MM approach)
    $z = x_{t-1} + \alpha^{-1}A^T\Sigma^{-1}(v - Ax_{t-1})$
    For $n = 1$:$Ne$ (Nesterov algorithm)
      $\Omega_n = P_{B_{l_1}}\left(\hat{\Omega}_{n-1} + \tau H P_{R^N}\left(z - \tau H^*\hat{\Omega}_{n-1}\right)/L\right)$,
      $k_n' = \left(1 + \sqrt{1 + 4k_{n-1}'^2}\right)/2$,
      $\hat{\Omega}_n = \Omega_{n-1} + \left((k_{n-1}' - 1)/k_n'\right)(\Omega_n - \Omega_{n-1})$,
      If $\|\Omega_n - \Omega_{n-1}\|_2/\|\Omega_{n-1}\|_2 \leq T_1$, Break, End
    End
    $s_t = P_{R^N}(z - \tau H^*\Omega_{n-1})$, (Note: Step 4 in Fig. 1)
    $k_t = \left(1 + \sqrt{1 + 4k_{t-1}^2}\right)/2$,
    $c_t = \Phi(s_t)$,
    If $c_t > c_{t-1}$, then $u_t = u_{t-1}$, else $u_t = s_{t-1}$, End
      $x_t = u_t + (k_{t-1}/k_t)(s_t - u_t) + (k_{t-1} - 1/k_t)(u_t - u_{t-1})$,
      If $\|u_t - u_{t-1}\|_2/\|u_{t-1}\|_2 \leq T_2$, Break, End
    End
  Return $\hat{u} = u_t$

### D. Reconstruction Algorithm Using the Hessian Schatten Penalty

Our task was to estimate the attenuation coefficient $u$ from the projection data $v$ by minimizing the cost function $\Phi(u)$ in Eq. (7). We used the MM approach (Step 1 in Fig. 1), followed by a primal-dual formulation (Step 2 in Fig. 1), where the dual objective function was optimized by the Nesterov algorithm (Step 3 in Fig. 1). In our experiments, $u$ was initialized using the FDK reconstruction $FDK\{v\}$. Let $T$ and $Ne$ be the maximum iteration numbers for the MM approach and the Nesterov algorithm, respectively. In our experiment, we set $K = 100$ and $Ne = 20$. $T_1$ and $T_2$ are two small real numbers, and $L$ is the Lipschitz constant (Please see Algorithm 1).

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### A.3. Gauss–Seidel update

The task for image reconstruction is to estimate the attenuation coefficient distribution map $\mu$ from the projection data $\bar{p}$ by minimizing equation (3). In this study, the Gauss-Seidel update algorithm was adopted for the minimization problem.

Initialization:

$$\mu = \mathrm{FDK}\{\bar{p}\}$$

$$r = \bar{p} - A\mu$$

$$s_j = A_j{}^T \Sigma^{-1} A_j, \ \forall j$$

For each iteration
Begin
For each pixel $\mu_j$
Begin

$$\text{update } \left\{w_{jl}^{(t)}\right\}$$

$$\mu_j^{\text{old}} := \mu_j$$

$$\mu_j^{\text{new}} := \frac{A_j{}^T \Sigma^{-1} r + s_j \mu_j^{\text{old}} + \beta \sum_{l \in N_j} w_{jl}^{(t)} \mu_l}{s_j + \beta \sum_{l \in N_j} w_{jl}^{(t)}}$$

$$\mu_j := \max\left\{\mu_j^{\text{new}}, 0\right\}$$

$$r := r + A_j\left(\mu_j^{\text{old}} - \mu_j\right)$$

End
End

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