

2025国际表面科学技术与应用大会
2025 International Conference on Surface Science Technology and Application
(ICSSTA 2025)
会议第一轮通知

会议主题：聚焦表面科学技术创新，扩大国际科技交流合作

中国·杭州 2025.7.18-7.21

表面科学技术是一门交叉、综合性学科，以在原子或分子水平上研究表面及界面上发生的各种现象和过程为主要内容，涉及物理学、化学、数学、材料科学、生物学、工程学等基础和应用学科，是目前国际上最活跃的前沿学科之一，已成为现代工业技术开发的基础。

为了更深入地揭示表界面的科学问题，推动表面技术的广泛应用，使其最大化地服务社会发展和人类进步，国内外科学家不断创新，获得了大量的优异研究成果，取得了一系列显著成就。

国际表面科学技术与应用大会是由《表面技术》编辑部、《表面科学技术（英文）》编辑部主办，西南技术工程研究所及国内高校、科研院所联合主办的系列国际会议，旨在聚焦世界科技前沿、引领颠覆性技术创新、剖析难点与痛点案例、突出关键性技术、强化应用基础研究，为全球从事表面科学技术领域的专家、学者、企业家搭建一个技术交流、信息共享、成果展示、沟通合作的平台，以促进表面科学技术事业的高速发展。会议举办频次为2年一届。首届于23年在重庆成功召开，来自国内外的500名参会代表参会，反响热烈。

“2025 国际表面科学技术与应用大会”定于2025.7.18-7.21在中国杭州召开。会议以“聚焦表面科学技术创新，扩大国际科技交流合作”为主题，邀请国内外知名专家、学者做主题报告，并邀请国内外学者及行业翘楚汇聚一堂，就表面科学技术领域的最新研究成果和业界动态进行广泛、深入地交流和探讨，推动表面科学技术学科的高质量发展。



大会组织机构

1. 主办单位:

《表面技术》编辑部

《表面科学技术（英文）》编辑部

2. 联合主办单位（排名不分先后）:

西南技术工程研究所

清华大学

北京航空航天大学

浙江大学

哈尔滨工业大学

上海交通大学

中国科学技术大学

天津大学

西南交通大学

广东腐蚀科学与技术创新研究院

真空技术与物理全国重点实验室（兰州空间技术物理研究所）

浙江工业大学

中国计量大学

西南科技大学

安徽工业大学

西南石油大学

天津职业技术师范大学

北京石油化工学院

辽宁科技大学

浙江省特种设备科学研究院

重庆市热声电控制工程技术研究中心

国防科技工业自然环境试验研究中心

重庆市腐蚀与防护学会

海南万宁大气环境材料腐蚀国家野外科学观测研究站

重庆江津大气环境材料腐蚀国家野外科学观测研究站

西藏拉萨大气环境材料腐蚀国家野外科学观测研究站

黑龙江漠河大气环境材料腐蚀国家野外科学观测研究站

甘肃敦煌大气环境材料腐蚀国家野外科学观测研究站

3. 支持媒体:

Friction (SCI)

《装备环境工程》

《精密成形工程》

《包装工程》

《兵器材料科学与工程》

《材料开发与应用》

《电化学》

《热加工工艺》

《真空与低温》

“科工创享”融媒体平台

4. 大会顾问（以姓氏字母为序）：

程玉峰 宫声凯 郭东明 李得天 李 琳 李应红 毛新平 潘复生 孙世刚 涂善东
郑泉水

5. 大会主席：

宫声凯

6. 大会执行主席：

吴护林

7. 大会副主席（以姓氏字母为序）：

付红兵 郭洪波 黄伟新 居冰峰 李忠盛 唐鋆磊 汪怀远 卫国英 姚建华 余家欣
张世宏 张昱程 郑清春 钟丰平 朱嘉琦 朱旻昊

8. 学术委员会（以姓氏字母为序）：

蔡金光 蔡玉俊 曹学强 陈远流 陈 飞 陈明辉 程玉峰 丛大龙 邓德会 邓 旭
敦超超 冯 杰 付安庆 付前刚 高正源 郭 磊 郭洪波 何云斌 黄 一 黄伟新
江莉龙 金成滨 李长久 卢功勋 陆之毅 麦耀华 戚厚军 宋凯凯 宋凯强 唐鋆磊
汪爱英 汪怀远 王 璐 王立平 王启民 王铁钢 王亚明 项 荣 徐大可 薛文斌
杨 帆 杨冠军 杨年俊 杨雨萌 姚建华 余宗学 袁 梦 张达威 张善勇 张振华
张中泉 赵 朋 赵晓峰 周太刚 周延春 周益春 Tomas Prosek Hans-Joachim Freund
Ralf Feser Saurav Goel Youngku Sohn Jeong Young Park Yuemin Wang Emrah Ozensoy
Christof Wöll Zhirong Liao Shuo Yin Lee Sunghun Eungsun Byon Shihao Deng
Ji Vincen Yong Sun Yuhki Toku Yasuhiro KIMURA Xinwei Wang Shiladitya Paul
Wuge Briscoe Dongfeng He Beatriz Mingo Wojciech Simka Renguo Lu Junjie Wang

9. 组织委员会（以姓氏字母为序）：

曹凤婷 曾 晰 常菲帆 范其香 高 岗 耿延泉 韩庆月 何 菁 胡一平 江 莉
金浩哲 李红燕 李敬财 卢小鹏 林 冰 刘 琦 罗 茜 朴钟宇 千 坤 任 骊
汪桂根 王 鹏 王瑞涛 王铁钢 王 巍 王莹莹 邬宗芳 徐 琛 徐东东 徐梁格
徐云泽 薛召露 姚喆赫 张博威 张固非 张 敏 张群莉 张振亚 张 优 张智博
章文峰 赵文杰 周宏达 朱吴乐 朱志伟

大会主题学术论坛

论坛：表面合金化技术与工程应用

论坛主席：

李忠盛 西南技术工程研究所

论坛召集人：

丛大龙 西南技术工程研究所

召集单位：

西南技术工程研究所

主要议题：

- 1) 合金化原理与机制
- 2) 激光合金化技术
- 3) 原位合金化技术
- 4) 离子注入合金化技术
- 5) 表面合金化的性能评价与检测
- 6) 人工智能与表面合金化的融合与发展
- 7) 表面合金化技术的应用与挑战

论坛：表面原子级制造与检测

论坛主席：

居冰峰 浙江大学

巨 阳 浙江大学

论坛召集人：

居冰峰 浙江大学

巨 阳 浙江大学

召集单位：

浙江大学

主要议题：

- 1) 表面原子级制造工艺
- 2) 表面面形测量与表征
- 3) 表面亚表面缺陷测量
- 4) 表面原子尺度测量技术
- 5) 原子尺度材料与结构

论坛：激光复合制造国际论坛

论坛主席：

姚建华 浙江工业大学

论坛召集人:

张群莉 浙江工业大学

姚喆赫 浙江工业大学

召集单位:

浙江工业大学激光先进制造研究院

主要议题:

- 1) 激光表面强化与热处理
- 2) 激光熔覆与再制造
- 3) 激光清洗与抛光
- 4) 激光表面微纳加工

论坛: 能场复合表面改性技术

论坛主席:

朴钟宇 浙江工业大学

金 杰 清华大学

论坛召集人:

丁 丛 浙江工业大学

侯文涛 浙江工业大学

周振宇 浙江工业大学

刘大猛 清华大学

王 强 西安建筑科技大学

召集单位:

浙江工业大学机械工程学院

清华大学

主要议题:

- 1) 变形诱导表面强化技术
- 2) 热喷涂技术
- 3) 表面热处理技术
- 4) 表面织构技术
- 5) 离子束表面改性及加工

论坛: 先进热喷涂工艺与工程应用

论坛主席:

张世宏 安徽工业大学

杨冠军 西安交通大学

Lee Sunghun 韩国材料科学研究所 (KIMS)

论坛召集人:

薛召露 安徽工业大学

张小锋 广东省科学院新材料研究所

崔新宇 中国科学院金属研究所

何 箐 北京金轮坤天特种机械有限公司

召集单位:

安徽工业大学

主要议题:

- 1) 先进陶瓷涂层设计及制备技术
- 2) 金属陶瓷复合涂层工艺及应用
- 3) 新型合金涂层设计及制备方法
- 4) 复合功能涂层制备及前沿应用

论坛: 物理气相沉积技术及应用

论坛主席:

王铁钢 天津职业技术师范大学

王启民 广东工业大学

论坛召集人:

王铁钢 天津职业技术师范大学

范其香 天津职业技术师范大学

郑 军 安徽工业大学

召集单位:

天津职业技术师范大学(天津市高性能制造技术与装备重点实验室)

主要议题:

- 1) 物理气相沉积装备及工艺
- 2) 新型工具涂层
- 3) 超硬耐磨涂层
- 4) 高温防护涂层
- 5) 复合功能薄膜
- 6) 耐蚀防护涂层

论坛: 高温涂层

论坛主席:

郭洪波 北京航空航天大学

论坛召集人:

王亚明 哈尔滨工业大学

汪爱英 中国科学院宁波材料技术与工程研究所

王 璐 辽宁材料实验室

付前刚 西北工业大学

赵晓峰 上海交通大学

郭 磊 天津大学

召集单位:

北京航空航天大学

主要议题:

- 1) 隔热/环保涂层\耐腐蚀涂层
- 2) 透明涂层\密封涂层
- 3) 制造技术 (PVD、CVD、热喷涂等)
- 4) 涂料设计的人工智能与数字化制造

论坛: 光电功能薄膜及器件

论坛主席:

朱嘉琦 哈尔滨工业大学

论坛召集人:

朱嘉琦 哈尔滨工业大学

魏钟鸣 中国科学院半导体研究所

赖文勇 南京邮电大学

王 玲 天津大学

召集单位:

哈尔滨工业大学航天学院

哈尔滨工业大学郑州研究院

主要议题:

- 1) 光学薄膜
- 2) 透明半导体薄膜与器件
- 3) 柔性光电薄膜和器件
- 4) 智能变色薄膜
- 5) 二维光电材料与器件

论坛: 表面行为与先进表面技术

论坛主席:

余家欣 西南科技大学

李国强 西南科技大学

论坛召集人:

张亚锋 西南科技大学

召集单位:

西南科技大学

主要议题:

- 1) 超硬表面涂层及摩擦学行为
- 2) 超精密抛光与表面质量优化
- 3) 功能材料摩擦学行为
- 4) 微纳加工技术与表面功能化
- 5) 先进界面行为及其应用

论坛: 耐磨减摩表面工程

论坛主席:

朱旻昊 西南交通大学

张俊彦 中国科学院兰州化学物理研究所

孙 勇 英国德蒙福特大学

张凯锋 真空技术与物理全国重点实验室 (兰州空间技术物理研究所)

论坛召集人:

李红轩 中国科学院兰州化学物理研究所

樊小强 西南交通大学

孙 奇 西南交通大学

召集单位:

西南交通大学

真空技术与物理全国重点实验室 (兰州空间技术物理研究所)

主要议题:

- 1) 表面工程摩擦磨损
- 2) 特种工况涂层摩擦学
- 3) 润滑材料与摩擦化学
- 4) 薄膜、微纳表面摩擦学
- 5) 生物与仿生表面摩擦学
- 6) 工业摩擦学与密封表面技术

论坛: 腐蚀与防护

论坛主席:

汪怀远 天津大学

程玉峰 中国科学院宁波材料技术与工程研究所

付安庆 中国石油集团工程材料研究院腐蚀与防护研究所

论坛召集人:

汪怀远 天津大学

程玉峰 中国科学院宁波材料技术与工程研究所

付安庆 中国石油集团工程材料研究院腐蚀与防护研究所

召集单位:

天津大学

主要议题:

- 1) 腐蚀机理
- 2) 耐腐蚀材料
- 3) 防腐技术与工艺

论坛: 面向碳中和的能源转换表面技术及应用

论坛主席:

唐鋈磊 西南石油大学

杨冠军 西安交通大学

陆之毅 中国科学院宁波材料技术与工程研究所

论坛召集人:

林 冰 西南石油大学

徐云泽 大连理工大学

王莹莹 江汉大学

召集单位:

西南石油大学

主要议题:

- 1) 风力发电表面技术应用
- 2) 光伏发电表面技术应用
- 3) 氢能装备表面技术应用
- 4) 新能源装备表面技术应用
- 5) 碳基能源的开发与转化
- 6) 海洋能源转化装备开发与利用

论坛: 仿生功能表面材料设计与制造

论坛主席:

王 京 上海交通大学

曹墨源 南开大学

论坛召集人:

王 京 上海交通大学

曹墨源 南开大学

召集单位:

上海交通大学

主要议题:

- 1) 仿生功能结构设计

- 2) 生物的特殊功能性
- 3) 生物制造力学原理
- 4) 仿生 3D 制造技术
- 5) 防除冰表界面技术

论坛：表界面化学与催化

论坛主席：

黄伟新 中国科学技术大学

Jeong Young Park 韩国科学技术院 (KAIST)

杨 帆 上海科技大学

论坛召集人：

千 坤 中国科学技术大学

邬宗芳 中国科学技术大学

召集单位：

中国科学技术大学精准智能化学重点实验室

主要议题：

- 1) 表面和界面化学
- 2) 表面和界面结构
- 3) 表面和界面表征
- 4) 表面和界面合成
- 5) 表面和界面催化

论坛：表界面电化学科学与技术

论坛主席：

卫国英 中国计量大学

金成滨 中国计量大学

论坛召集人：

张中泉 中国计量大学

卢功勋 中国计量大学

召集单位：

中国计量大学

主要议题：

- 1) 表界面电化学检测技术
- 2) 电化学防护技术
- 3) 电沉积技术在集成电路领域的应用
- 4) 全固态/低温电池材料与技术
- 5) 电池界面调控技术

- 6) 电池材料腐蚀防护
- 7) 电化学监测与评价技术
- 8) AI 与表界面失效评价的深度融合

论坛：青年科学家论坛

论坛主席：

陈 飞 北京石油化工学院

陈明辉 东北大学

论坛召集人：

张 优 北京石油化工学院

卢小鹏 东北大学

张博威 北京科技大学

召集单位：

北京石油化工学院

大会工作语言

中文、英文，大会会议现场配有同声传译。

大会征文

1. 征文范围（包含但不限于各主题学术论坛议题）。

2. 征文形式：英文摘要或者英文全文。

3. 征文要求及出版事项：

1) 论文应恪守出版伦理道德，并未在国内外学术期刊或会议公开发表过。

2) 论文统一采用英文撰写（论文模板请见附件二），文件请保存为 Word 文档，以“作者姓名+单位+主题论坛名称”命名。

3) 收稿类型：

①所有论文（摘要或者全文）经会议组委会评审后将全部收录至会议论文集，会议论文集不得以任何形式公开发表（包括网络发表），仅供会议交流。

②本次会议与英国皇家物理学会（Institute of Physics, IOP）出版社合作，经 IOP 评审采用后的论文（英文全文），将在 IOP 所属期刊 Journal of Physics: Conference Series (JPCS) 上公开发表，并由 IOP 提交至 EI Compendex、Scopus 数据库检索。若有意向投稿至 IOP，请按照投稿模板提交英文全文，并备注“投稿至 IOP”。

注：投稿的所有论文/摘要均需提供加盖第一著作权单位公章的“论文非涉密证明”，模板请见附件三。

4. 投稿方式及时间节点：

1) 投稿方式：请登录会议网站 <https://icssta2025.scimeeting.cn/>，注册投稿。

2) 时间节点：论文投稿截止时间 2025-06-20。

5. 其他请见附件一“征文通知”。

大会日程安排

会议时间：

2025.7.18 注册、报到
2025.7.19 大会报告
2025.7.20 大会主题学术论坛报告
2025.7.21 结束、疏散

注册报名

会议注册：请登录会议网站 <https://icssta2025.scimeeting.cn/>注册报名。

代表类型		提前注册（2025.5.30之前）	现场注册
普通参会代表	参会交流/投稿至会议论文集	¥2200 元	¥2500 元
	参会交流+投稿至 IOP	¥3200 元	¥3500 元
学生参会代表	参会交流/投稿至会议论文集	¥1600 元	¥1900 元
	参会交流+投稿至 IOP	¥2600 元	¥2900 元

备注：

- 1.参会交流+投稿至 IOP 的参会代表，所缴纳注册费中包含 1000 元论文处理费用，后续不再收取任何费用，若因稿件质量问题被 IOP 出版社退稿，费用无法退回。
- 2.本次会议的费用统一由“重庆红智信信息技术有限公司”开具“会议注册费”增值税发票。
- 3.会议期间食宿统一安排，费用自理。

大会联系方式

展览展示等正在火热召集中，有意向单位请联系大会总负责人胡琳盛详细洽谈（15823219738 微信同号）。

重要说明

此会议为非密学术交流会议，会议的报告、交流内容请不要涉及国家秘密、工作秘密、商业秘密。

附件一： 2025国际表面科学技术与应用大会
征文通知

2025国际表面科学技术与应用大会将于2025.7.18-7.21在中国杭州市召开，此次会议以“绿聚焦表面科学技术创新，扩大国际科技交流合作”为主题，欢迎广大科研工作者投稿。

一、征文范围（包含但不限于以各主题学术论坛议题）：

分论坛	论文征集范围
论坛：表面合金化技术与工程应用	1) 合金化原理与机制 2) 激光合金化技术 3) 原位合金化技术 4) 离子注入合金化技术 5) 表面合金化的性能评价与检测 6) 人工智能与表面合金化的融合与发展 7) 表面合金化技术的应用与挑战
论坛：表面原子级制造与检测	1) 表面原子级制造工艺 2) 表面面形测量与表征 3) 表面亚表面缺陷测量 4) 表面原子尺度测量技术 5) 原子尺度材料与结构
论坛：激光表面制造与再制造	1) 激光表面强化与热处理 2) 激光熔覆与再制造 3) 激光清洗与抛光 4) 激光表面微纳加工
论坛：能场复合表面改性技术	1) 变形诱导表面强化技术 2) 热喷涂技术 3) 表面热处理技术 4) 表面织构技术 5) 离子束表面改性及加工
论坛：先进热喷涂工艺与工程应用	1) 先进陶瓷涂层设计及制备技术 2) 金属陶瓷复合涂层工艺及应用 3) 新型合金涂层设计及制备方法 4) 复合功能涂层制备及前沿应用
论坛：物理气相沉积技术及应用	1) 物理气相沉积装备及工艺 2) 新型工具涂层 3) 超硬耐磨涂层 4) 高温防护涂层 5) 复合功能薄膜 6) 耐蚀防护涂层

2025 国际表面科学技术与应用大会

2025 International Conference on Surface Science Technology and Application (ICSSTA 2025)

论坛：高温涂层	<ol style="list-style-type: none"> 1) 隔热/环保涂层\耐腐蚀涂层 2) 透明涂层\密封涂层 3) 制造技术（PVD、CVD、热喷涂等） 4) 涂料设计的人工智能与数字化制造
论坛：光电功能薄膜及器件	<ol style="list-style-type: none"> 1) 光学薄膜 2) 透明半导体薄膜与器件 3) 柔性光电薄膜和器件 4) 智能变色薄膜 5) 二维光电材料与器件
论坛：表面行为与先进表面技术	<ol style="list-style-type: none"> 1) 超硬表面涂层及摩擦学行为 2) 超精密抛光与表面质量优化 3) 功能材料摩擦学行为 4) 微纳加工技术与表面功能化 5) 先进界面行为及其应用
论坛：耐磨减摩表面工程	<ol style="list-style-type: none"> 1) 表面工程摩擦磨损 2) 特种工况涂层摩擦学 3) 润滑材料与摩擦化学 4) 薄膜、微纳表面摩擦学 5) 生物与仿生表面摩擦学 6) 工业摩擦学与密封表面技术
论坛：腐蚀与防护	<ol style="list-style-type: none"> 1) 腐蚀机理 2) 耐腐蚀材料 3) 防腐技术与工艺
论坛：面向碳中和的能源转换表面技术及应用	<ol style="list-style-type: none"> 1) 氢能转化与利用表面技术 2) 太阳能转化与利用表面技术 3) 海洋能高效转化与利用表面技术 4) 碳基能源清洁转化表面技术 5) 先进储能材料与器件表面技术 6) 新能源装备长效安全服役表面保护技术
论坛：仿生功能表面材料设计与制造	<ol style="list-style-type: none"> 1) 仿生功能结构设计 2) 生物的特殊功能性 3) 生物制造力学原理 4) 仿生 3D 制造技术 5) 防除冰表界面技术
论坛：表界面化学与催化	<ol style="list-style-type: none"> 1) 表面和界面化学 2) 表面和界面结构 3) 表面和界面表征 4) 表面和界面合成 5) 表面和界面催化
论坛：表界面电化学科学与技术	<ol style="list-style-type: none"> 1) 表界面电化学检测技术 2) 电化学防护技术 3) 电沉积技术在集成电路领域的应用

	4) 全固态/低温电池材料与技术 5) 电池界面调控技术 6) 电池材料腐蚀防护 7) 电化学监测与评价技术 8) AI 与表界面失效评价的深度融合
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二、征文要求

1. 征文范围（包含但不限于各主题学术论坛议题）。

2. 征文形式：英文摘要或者英文全文。

3. 征文要求及出版事项：

1) 论文应恪守出版伦理道德，并未在国内外学术期刊或会议公开发表过。

2) 论文统一采用英文撰写（论文模板请见附件二），文件请保存为 Word 文档，以“作者姓名+单位+主题论坛名称”命名。

3) 收稿类型：

①所有论文（摘要或者全文）经会议组委会评审后将全部收录至会议论文集，会议论文集不得以任何形式公开发表（包括网络发表），仅供会议交流。

②本次会议与英国皇家物理学会（Institute of Physics, IOP）出版社合作，经 IOP 评审采用后的论文（英文全文），将在 IOP 所属期刊 Journal of Physics: Conference Series (JPCS) 上公开发表，并由 IOP 提交至 EI Compendex、Scopus 数据库检索。若有意向投稿至 IOP，请按照投稿模板提交英文全文，并备注“投稿至 IOP”。

注：投稿的所有论文/摘要均需提供第一著作权单位的“论文非涉密证明”，模板请见附件三。

三、投稿方式及时间节点：

1. 投稿方式：请登录会议网站 <https://icssta2025.scimeeting.cn/>，注册投稿。

2. 时间节点：论文投稿截止时间 2025-06-20。

四、优秀论文评比

大会设立 35 周岁及以下青年优秀论文奖，其中优秀宣读论文奖 20 名，优秀展出论文奖 10 名。

五、联系方式

投稿联系人：邹浪

联系电话：+86-18581275935/023-68792193

E-mail: [wjkbm@163.com](mailto:wjqkbm@163.com)

附件二“论文模板”:

Layout guide for *Journal of Physics: Conference Series* using Microsoft Word

First Author ^a, Second Author ^b, Third Author ^{a,b}

^a First affiliation, Address, City and Postcode, Country

^b Second affiliation, Address, City and Postcode, Country

Abstract. All articles *must* contain an abstract. The abstract text should be formatted using 10 point Times or Times New Roman and indented 25 mm from the left margin. Leave 10 mm space after the abstract before you begin the main text of your article, starting on the same page as the abstract. The abstract should give readers concise information about the content of the article and indicate the main results obtained and conclusions drawn. The abstract is not part of the text and should be complete in itself; no table numbers, figure numbers, references or displayed mathematical expressions should be included. It should be suitable for direct inclusion in abstracting services and should not normally exceed 200 words in a single paragraph. Since contemporary information-retrieval systems rely heavily on the content of titles and abstracts to identify relevant articles in literature searches, great care should be taken in constructing both.

1. Introduction

These guidelines, written in the style of a submission to *J. Phys.: Conf. Ser.*, show the best layout for your paper using Microsoft Word. If you don't wish to use the Word template provided, please use the following page setup measurements.

Margin	A4 ONLY – DO NOT USE US LETTER
Top	4.0 cm
Bottom	2.7 cm
Left	2.5 cm
Right	2.5 cm
Gutter	0 cm
Header	0 cm
Footer	0 cm

It is *vital* that you **do not add any headers, footers or page numbers to your paper**; these will be added during the production process at IOP Publishing (this is why the Header and Footer margins are set to 0 cm in table 1).

2. Formatting the title, authors and affiliations

Please follow these instructions as carefully as possible so all articles within a conference have the same style to the title page. This paragraph follows a section title so it should not be indented.

2.1. Formatting the title

The title is set 17 point Times Bold, flush left, unjustified. The first letter of the title should be capitalized with the rest in lower case. It should not be indented. Leave 28 mm of space above the title and 10 mm after the title.

2.2. Formatting author names

The list of authors should be indented 25 mm to match the abstract. The style for the names is initials then surname, with a comma after all but the last two names, which are separated by 'and'. Initials should not have full stops—for example **A J Smith** and *not* **A. J. Smith**. First names in full may be used if desired. If an author has additional information to appear as a footnote, such as a permanent address or to indicate that they are the corresponding author, the footnote should be entered after the surname.

2.3. Formatting author affiliations

Please ensure that affiliations are as full and complete as possible and include the country. The addresses of the authors' affiliations follow the list of authors and should also be indented 25 mm to match the abstract. If the authors are at different addresses, numbered superscripts should be used after each surname to reference an author to his/her address. The numbered superscripts should *not* be inserted using Word's footnote command because this will place the reference in the wrong place—at the bottom of the page (or end of the document) rather than next to the address. Ensure that any numbered superscripts used to link author names and addresses start at 1 and continue on to the number of affiliations. Do not add any footnotes until all the author names are linked to the addresses. For example, to format

J Mucklow^{1,3}, J E Thomas^{1,4} and A J Cox^{2,5}

where there are three addresses, you should insert numbered superscripts 1, 2 and 3 to link surnames to addresses and then insert *footnotes* 4 and 5. Note that the first footnote in the main text will now be number 6.

2.3.1. An example. In this example we can see that there are footnotes after each author name and only 5 addresses; the 6th footnote might say, for example, 'Author to whom any correspondence should be addressed.' In addition, acknowledgment of grants or funding, temporary addresses etc might also be indicated by footnotes.

Spin dynamics in geometrically frustrated antiferromagnetic pyrochlores

J S Gardner^{1,2,6}, G Ehlers³, S T Bramwell⁴ and B D Gaulin⁵

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³ SNS Project, Oak Ridge National Laboratory, 701 Scarboro Road, Oak Ridge, TN 37830, USA

⁴ Department of Chemistry, University College London, 20 Gordon Street, London WC1H 0AJ, UK

⁵ Department of Physics and Astronomy, Canadian Institute for Advanced Research, McMaster University, Hamilton, ON, L8S 4M1, Canada

3. Formatting the text

The text of your paper should be formatted as follows:

- 11 point Times or Times New Roman.
- The text should be set to single line spacing.
- Paragraphs should be justified.
- The first paragraph after a section or subsection heading should not be indented; subsequent paragraphs should be indented by 5 mm.

4. Sections, subsections and subsubsections

The use of sections to divide the text of the paper is optional and left as a decision for the author. Where the author wishes to divide the paper into sections the formatting shown in table 2 should be used.

4.1. Style and spacing

Table 2. Formatting sections, subsections and subsubsections.

	Font	Spacing
Section	11 point Times bold	1 line space before a section No additional space after a section heading
Subsection	11 point <i>Times Italic</i>	1 line space before a subsection No space after a subsubsection heading
Subsubsection	11 point <i>Times Italic</i>	Subsubsections should end with a full stop (period) and run into the text of the paragraph

4.2. Numbering

Sections should be numbered with a dot following the number and then separated by a single space:

- sections should be numbered 1, 2, 3, etc
- subsections should be numbered 2.1, 2.2, 2.3, etc
- subsubsections should be numbered 2.3.1, 2.3.2, etc

5. Footnotes

Footnotes should be avoided whenever possible. If required they should be used only for brief notes that do not fit conveniently into the text.

6. Figures

Each figure should have a brief caption describing it and, if necessary, a key to interpret the various lines and symbols on the figure.

6.1. Space considerations

Authors should try to make economical use of the space on the page; for example:

- avoid excessively large white space borders *around* your graphics;
- try to design illustrations that make good use of the available space—avoid unnecessarily large amounts of white space *within* the graphic;

6.2. Text in figures

Wherever possible try to ensure that the size of the text in your figures (apart from superscripts/subscripts) is approximately the same size as the main text (11 points).

6.3. Line thickness

In general, try to avoid extremely fine lines (often called ‘hairline’ thickness) because such lines often do not reproduce well when printed out—your diagrams may lose vital information when downloaded and printed by other researchers. Try to ensure that lines are no thinner than 0.25 pt. Note that some illustrations may reduce line thickness when the graphic is imported and reduced in size (scaled down) inside Microsoft Word.

6.4. Colour illustrations

You are free to use colour illustrations for the online version of *Journal of Physics: Conference Series* but any print version will only be printed in black and white **unless special arrangements have been made with your conference organizer for colour printing. Please check with the conference organizer whether or not this is the case.** If any print version will be black and white only, you should check your figure captions carefully and remove any reference to colour in the illustration and text. In addition, some colour figures will degrade or suffer loss of information when converted to black and white and this should be taken into account when preparing them.

6.5. Positioning figures

Individual figures should normally be centred but place two figures side-by-side if they will fit comfortably like this as it saves space. Place the figure as close as possible after the point where it is first referenced in the text. If there are a large number of figures it might be necessary to place some before their text citation. Figures should never appear within or after the reference list.

6.6. Figure captions/numbering

Captions should be below the figure and separated from it by a distance of 6 points—although to save space it is acceptable to put the caption next to the figure. Figures should be numbered sequentially through the text—‘Figure 1’, ‘Figure 2’ and so forth and should be referenced in the text as ‘figure 1’, ‘figure 2’,... and not ‘fig. 1’, ‘fig. 2’,

For captions not placed at the side of the figure, captions should be set to the width of the figure for wider figures, centred across the width of the figure, or, for narrow figures with wide captions, slightly extended beyond the width of the figure. The caption should finish with a full stop (period).

6.6.1. Examples. The following examples show how to format a number of different figure/caption combinations. **Note that the table borders are shown as broken lines for guidance only.**

<div> <div>Wider figure/short caption</div> <div>Figure 3. Figure with short caption (caption centred).</div> </div>	
<div> <div>Narrow figure with a wide caption.</div> <div>Figure 4. This is a figure with a caption that is wider than the actual graphic. To save space you can put the caption to the right of the figure by placing the graphic and justified caption in a table with one row and two columns.</div> </div>	
<div> <div>Wider figure/wider caption</div> <div>Figure 5. In this case simply justify the caption so that it is as the same width as the graphic.</div> </div>	

<p>Narrow figure with a wide caption.</p>	<p>Narrow figure with a wide caption.</p>
<p>Figure 6. These two figures have been placed side-by-side to save space. Justify the caption.</p>	<p>Figure 7. These two figures have been placed side-by-side to save space. Justify the caption.</p>

6.7. Figures in parts

If a figure has parts these should be labelled as (a), (b), (c) etc on the actual figure. Parts should not have separate captions.

7. Tables

Note that as a general principle, for large tables font sizes can be reduced to make the table fit on a page or fit to the width of the text.

7.1. Positioning tables

Tables should be centred unless they occupy the full width of the text.

7.2. Tables in parts

If a table is divided into parts these should be labelled (a), (b), (c) etc but there should only be one caption for the whole table, not separate ones for each part.

7.3. Table captions/numbering

Tables should be numbered sequentially throughout the text and referred to in the text by number (table 1, **not** tab. 1 etc). Captions should be placed at the top of the table and should have a full stop (period) at the end. Except for very narrow tables with a wide caption (see examples below) the caption should be the same width as the table.

7.4. Rules in tables

Tables should have only horizontal rules and no vertical ones. Generally, only three rules should be used: one at the top of the table, one at the bottom, and one to separate the entries from the column headings. Table rules should be 0.5 points wide.

7.5. Examples

Because tables can take many forms, it is difficult to provide detailed guidelines; however, the following examples demonstrate our preferred styles.

Table 3. A simple table. Place the caption above the table. Here the caption is wider than the table so we extend it slightly outside the width of the table. Justify

the text. Leave 6 pt of space between the caption and the top of the table.

Distance (m)	Velocity (ms ⁻¹)
100	23.56
150	34.64
200	23.76
250	27.9

7.5.1. More complex tables. The following is a slightly more complex table with a caption that is narrower than the table. Centre the caption across the width of the table. If it is difficult to make a table fit the page, use a smaller font. Headings should normally be in Roman (i.e., not bold or italic) type, have an initial capital and normally align left (but centred sometimes looks better); it is up to the author to choose a layout that is most useful to the reader. Columns of numbers normally align on the decimal point.

Table 4.A slightly more complex table with a narrow caption.

	Wake Chi Sqr. (N=15, df=1)	<i>p</i>	Stage 1 Chi Sqr. (N=15, df=1)	<i>p</i>	Stage 2 Chi Sqr. (N=15, df=1)	<i>p</i>
F3	1.143	0.285	0.286	0.593	0.286	0.593
Fz	1.143	0.285	0.067	0.796	0.067	0.796
C4	2.571	0.109	0.600	0.439	1.667	0.197

Table 5. A slightly more complex table with a caption that is the same width as the table. Simply place the caption inside a row at the top of the table and merge (combine) the cells together so that you have a single table cell the width of the table. Justify the caption.

	Wake Chi Sqr. (N=15, df=1)	<i>p</i>	Stage 1 Chi Sqr. (N=15, df=1)	<i>p</i>	Stage 2 Chi Sqr. (N=15, df=1)	<i>p</i>
F3	1.143	0.285	0.286	0.593	0.286	0.593
Fz	1.143	0.285	0.067	0.796	0.067	0.796
Cz	1.143	0.285	0.077	0.782	0.286	0.593

7.6. Notes to tables

If you wish to format a table so that it contains notes (table footnotes) to the entries within the body of the table and/or within the table caption, these notes should be formatted using alphabetic superscripts such as ^a, ^b, ^c and so forth. Notes within the table caption should be listed first. Notes should be placed at the bottom of the table; one convenient method is to create an empty row at the bottom of the table to contain them. Again, merge the cells to give you a single cell the width of the table. Table notes should be 10 point Times Roman. Each note should be on a separate line.

Table 6. A table with headings spanning two columns and containing notes^a.

Nucleus	Thickness (mg cm ⁻²)	Composition	Separation energies	
			, n (MeV)	, 2n (MeV)
¹⁸¹ Ta	19.3±0.1 ^b	Natural	7.6	14.2
²⁰⁸ Pb	3.8±0.8 ^c	99% enriched	7.4	14.1
²⁰⁹ Bi	2.6±0.01 ^c	Natural	7.5	14.4

^aNotes are referenced using alpha superscripts.

^bSelf-supporting.

^cDeposited over Al backing.

8. Equations and mathematics

8.1. Fonts in Equation Editor (or MathType)

Make sure that your Equation Editor or MathType fonts, including sizes, are set up to match the text of your document.

8.2. Points of style

8.2.1. *Vectors*. Bold italic characters is our preferred style but the author may use any standard notation; for example, any of these styles for vectors is acceptable:

‘the vector cross product of ***a*** and ***b*** is given by ***a*** × ***b*** ...’, or

‘the vector cross product of **a** and **b** is given by **a** × **b** ...’, or

‘the vector cross product of ***a*** and ***b*** is given by ***a*** × ***b*** ...’.

8.2.2. *The solidus (/)*. A two-line solidus should be avoided where possible; for example, use

- $\frac{1}{M_a} \left(\int_0^\infty d\omega \frac{|S_0|^2}{N} \right)^{-1}$ instead of $\frac{1}{M_a} / \int_0^\infty d\omega \frac{|S_0|^2}{N}$
- $\left(\frac{x^2 + y^2}{x + y} \right)^{1/2}$ instead of $\sqrt{\left(\frac{x^2 + y^2}{x + y} \right)}$.

8.2.3. *Roman and italic in mathematics*. Variables should be in italic; however there are some cases where it is better to use a Roman font:

- Use a Roman d for a differential d, for example, $\tan \theta = dy/dx$.
- Use a Roman e for an exponential e; for example, $y = e^x$.
- Use a Roman i for the square root of -1; e.g., $i = \sqrt{-1}$.
- Certain other common mathematical functions, such as cos, sin, det and ker, should appear in Roman type.
- Subscripts and superscripts should be in Roman type if they are labels rather than variables or characters that take values. For example in the equation

$$\varepsilon_m = -g\mu_n Bm$$

m, the zcomponent of the nuclear spin, is italic because it can have different values whereas *n* is Roman because it is a label meaning nuclear.

8.3. Alignment of mathematics

The preferred style for displayed mathematics in *Journal of Physics: Conference Series* is to centre equations; however, long equations that will not fit on one line, or need to be continued on subsequent lines, should start flush left. Any continuation lines in such equations should be indented by 25 mm.

Equations should be split at mathematically sound points, often immediately before =, + or – signs or between terms multiplied together. The connecting signs are not repeated and appear only at the beginning of the turned-over line. A multiplication sign should be added to the start of turned-over lines where the break is between two multiplied terms.

8.3.1. *Small displayed equations*: Some examples:

$$\phi_k(\vec{r}) = (2\pi)^{2/3} \exp(i\vec{k} \cdot \vec{r}) \quad (1)$$

$$A^{(3/2)} = A^{(+)} - A^{(-)} \quad (I = \frac{3}{2}) \quad (2)$$

However, if equations will fit on one line, do so; for example, (5) may also be formatted as:

$$C(12) = [\vec{\pi}(x) \cdot \vec{\phi}(x+r)] \approx 1 - \text{const} \frac{r^2}{L^2} \int_r^L \frac{x dx}{x^2} + \dots \approx 1 - \text{const} \frac{r^2}{L^2} \ln\left(\frac{L}{r}\right) + \dots \quad (6)$$

8.3.2. Large display equations: examples. If an equation is almost the width of a line, place it flush left against the margin to allow room for the equation number.

$$Y(h\nu) = \frac{1}{q} \frac{(h\nu)^2}{[(h\nu_r)^2 - (h\nu)^2]^2 + (\hbar\Delta\omega_{1/2})^2 (h\nu)^2} \int_{E\tau-E_\nu-\Delta\phi}^{\infty} \frac{[E + (E_\nu - h\nu)]^{1/2}}{[E + (E_\nu - E_-)]^{1/2}} \frac{E}{\exp[(E - E_m)/kT] + 1} dE \quad (7)$$

8.4. Miscellaneous points

- Exponential expressions, especially those containing subscripts or superscripts, are clearer if the notation $\exp(\dots)$ is used, except for simple examples. For instance, $\exp[i(kx - \omega t)]$ and $\exp(z^2)$ are preferred to $e^{i(kx - \omega t)}$ and e^{z^2} , but e^2 is acceptable. Similarly the square root sign $\sqrt{}$ should only be used with relatively simple expressions, e.g. $\sqrt{2}$ and $\sqrt{a^2 + b^2}$, but in other cases the power $1/2$ should be used.
- It is important to distinguish between $\ln = \log_e$ and $\lg = \log_{10}$.
- Braces, brackets and parentheses should be used in the following order: $\{[()]\}$. The same ordering of brackets should be used within each size. However, this ordering can be ignored if the brackets have a special meaning (e.g. if they denote an average or a function).
- Decimal fractions should always be preceded by a zero: for example 0.123 *not* .123 (note, do not use commas, use the decimal point).
- Equations that are referred to in the text should be numbered with the number on the right-hand side.

8.5. Equation numbering

Equations may be numbered sequentially throughout the text (i.e., (1), (2), (3),...) or numbered by section (i.e., (1.1), (1.2), (2.1), ...) depending on the author's personal preference. In articles with several appendices equation numbering by section is useful in the appendices even when sequential numbering has been used throughout the main body of the text: for example, A.1, A.2 and so forth. When referring to an equation in the text, always put the equation number in brackets—e.g. ‘as in equation (2)’ or ‘as in equation (2.1)’—and always spell out the word ‘equation’ in full, e.g. ‘if equation (5) is factorized’; do not use abbreviations such as ‘eqn.’ or ‘eq.’.

9. Appendices

Technical detail that it is necessary to include, but that interrupts the flow of the article, may be consigned to an appendix. Any appendices should be included at the end of the main text of the paper, after the acknowledgments section (if any) but before the reference list. If there are two or more appendices they should be called appendix A, appendix B, etc. Numbered equations should be in the form (A.1), (A.2), etc, figures should appear as figure A1, figure B1, etc and tables as table A1, table B1, etc.

10. References

As part of the production system for *Journal of Physics: Conference Series*, online versions of all reference lists will, wherever possible, be linked electronically using CrossRef. **It is vitally important for all the references to**

be accurate and to be carefully formatted using the guidelines below, otherwise delays may be incurred and the references may not link through CrossRef.

A complete reference should provide the reader with enough information to locate the article concerned, whether published in print or electronic form, and should, depending on the type of reference, consist of:

- name(s) and initials;
- date published;
- title of journal, book or other publication;
- titles of journal articles may also be included (optional);
- volume number;
- editors, if any;
- town of publication and publisher in parentheses for *books*;
- the page numbers.

For *Journal of Physics: Conference Series*, please use the Vancouver numerical system where references are numbered sequentially throughout the text. The numbers occur within square brackets, like this [2], and one number can be used to designate several references. The reference list gives the references in numerical, not alphabetical, order.

Points to note

- There should be a 5 mm gap between the reference number (e.g., '[8]') and the start of the reference text. Second and subsequent lines of individual references should be indented by 5 mm. For example:

[1] Aderhold J, Davydov V Yu, Fedler F, Klausning H, Mistele D, Rotter T, Semchinova O, Stemmer J and Graul J 2001 *J. Cryst. Growth* **222** 701

- the authors should be in the form surname (with only the first letter capitalized) followed by the initials with no periods after the initials. Authors should be separated by a comma except for the last two which should be separated by 'and' with no comma preceding it.
- The article title (if given) should be in lower case letters, except for an initial capital, and should follow the date.
- The journal title is in italic and is abbreviated. If a journal has several parts denoted by different letters the part letter should be inserted after the journal in Roman type, e.g. *Phys. Rev. A*. **Please do not join the part letter to the volume number in bold type.**
- Both the initial and final page numbers should be given where possible. The final page number should be in the shortest possible form and separated from the initial page number by an en rule '–', e.g. 1203–14, i.e. the numbers '12' are not repeated.
- References to printed journal articles. A normal reference to a journal article contains three changes of font (see table 6).

Table 6. Font styles for a reference to a journal article.

Element	Style
Authors, date	Roman type
Article title (optional)	Roman type
Journal title	Italic type
Volume number	Bold type
Page numbers	Roman type

Here are some examples taken from published papers:

- [1] Strite S and Morkoc H 1992 *J. Vac. Sci. Technol. B* **10** 1237
- [2] Nakamura S, Senoh M, Nagahama S, Iwase N, Yamada T, Matsushita T, Kiyoku H and Sugimoto Y 1996 *Japan. J. Appl. Phys.* **35** L74

10.1.1. *References to preprints.* For preprints there are two distinct cases:

- Where the article has been published in a journal and the preprint is supplementary reference information. In this case it should be presented as:

- [1] Kunze K 2003 T-duality and Penrose limits of spatially homogeneous and inhomogeneous cosmologies *Phys. Rev. D* **68** 063517 (*Preprint* gr-qc/0303038)

- Where the only reference available is the preprint. In this case it should be presented as

- [1] Milson R, Coley A, Pravda V and Pravdova A 2004 Alignment and algebraically special tensors *Preprint* gr-qc/0401010

10.1.2. *References to electronic-only journals.* In general article numbers are given, and no page ranges, as most electronic-only journals start each article on page 1.

- For SISSA journals the volume is divided into monthly issues and these form part of the article number

- [1] Horowitz G T and Maldacena J 2004 The black hole final state *J. High Energy Phys.* JHEP02(2004)008

10.1.3. *References to books, conference proceedings and reports.* References to books, proceedings and reports are similar to journal references, but have only two changes of font (see table 7).

Table 7. Font styles for references to books, conference proceedings and reports.

Element	Style
Authors, Date	Roman type
Book title	Italic type
Editors	Roman type
Place (city, town etc) of publication, publisher	Roman type
Volume, page number	Roman type

Points to note

- Book titles are in italic and should be spelt out in full with initial capital letters for all except minor words. Words such as Proceedings, Symposium, International, Conference, Second, etc should be abbreviated to *Proc.*, *Symp.*, *Int.*, *Conf.*, *2nd*, respectively, but the rest of the title should be given in full, followed by the date of the conference and the town or city where the conference was held. For Laboratory Reports the Laboratory should be spelt out wherever possible, e.g. *Argonne National Laboratory Report*.
- The volume number, for example vol 2, should be followed by the editors, in a form such as 'ed A J Smith and P R Jones'. Use *et al* if there are more than two editors. Next comes the town of publication and publisher, within brackets and separated by a colon, and finally the page numbers preceded by p if only one number is given or pp if both the initial and final numbers are given.

Examples taken from published papers:

- [1] Sze S M 1969 *Physics of Semiconductor Devices* (New York: Wiley–Interscience)
- [2] Dorman L I 1975 *Variations of Galactic Cosmic Rays* (Moscow: Moscow State University Press) p 103
- [3] Caplar R and Kulisic P 1973 *Proc. Int. Conf. on Nuclear Physics (Munich)* vol 1 (Amsterdam: North-Holland/American Elsevier) p 517
- [4] Szytula A and Leciejewicz J 1989 *Handbook on the Physics and Chemistry of Rare Earths* vol 12, ed K A Gschneidner Jr and L Erwin (Amsterdam: Elsevier) p 133
- [5] Kuhn T 1998 Density matrix theory of coherent ultrafast dynamics *Theory of Transport Properties of Semiconductor Nanostructures (Electronic Materials* vol 4) ed E Schöll (London: Chapman and Hall) chapter 6 pp 173–214

10.2. Reference lists

Up to ten authors may be given in a particular reference; where there are more than ten only the first should be given followed by *et al.* Abbreviations of the names of periodicals used by IOP Publishing are usually the same as those given in British Standard BS 4148: 1985. If an author is unsure of an abbreviation it is best to leave the title in full. The terms *loc. cit.* and *ibid* should not be used.

Unpublished conferences and reports should generally not be included in the reference list and articles in the course of publication should be entered only if the journal of publication is known. A thesis submitted for a higher degree may be included in the reference list if it has not been superseded by a published paper and is available through a library; sufficient information should be given for it to be traced readily.

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附件三“论文非涉密证明”：

关于《XXXX》（文章题目）的保密审查证明

XXXX 会务组：

兹证明，由（XXXXXXXX）（作者的单位和姓名）提交的文章《XXXXXXXX》
（文章题目），全部内容经过保密审查，不涉及国家秘密、工作秘密、商业秘密，
同意在 XXXX 会议公开发表。

特此证明

单位(盖章)：

时间：