

机器学习驱动的同步辐射实验“智慧终端”应用研究

我国同步辐射实验装置硬设施建设的水平、数量均跻身世界前列，但分析破解海量、多模态实验数据的软设施建设却发展严重滞后，直接阻碍了重大科学突破的发现与产出。报告人基于机器学习方法驱动，结合多尺度模拟、数字孪生等技术，构建了先进同步辐射实验“智慧终端”多维解析计算系统，实现多种重要材料的结构及性能的精准解析，推动了包括新型纳米药物、功能新材料性能提升的应用研究。

相关代表论文：

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4. Synchrotron radiation data-driven artificial intelligence approaches in materials discovery, *Artificial Intelligence Chemistry*, 2, 100045 (2024)
5. Xiwu: A Basis Flexible and Learnable LLM for High Energy Physics, arXiv preprint arXiv:2404.08001 (2024)

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