



# 复旦大学物理系 物质科学报告

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## Numerical simulation of black hole accretion and wind

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Black hole is very common in the universe. The surrounding gas will fall onto it due to its strong gravitational force, this process is called black hole accretion. Black hole accretion is a fundamental physical process in astrophysics and plays an important role in active galactic nuclei, black hole X-ray binaries, Gamma-ray bursts, and tidal disruption events. Many important progresses have been made in recent years in this field, mainly attributed to the rapid development of numerical simulations. In this talk, I will first give a general introduction to black hole accretion; then I will focus on discussing the main development in this field in recent years, namely wind launched from accretion flow, including its observational evidence, launching mechanism, and astrophysical implications in galaxy evolution.



袁峰研究员 1991 年本科毕业于山东大学物理系, 1997 年在中国科技大学获得天体物理博士学位。之后分别在南京大学天文系、德国马普射电天文研究所、美国哈佛大学天体物理中心、普渡大学等进行博士后研究, 2005 年入选中科院百人计划到中科院上海天文台工作至今, 现任上海天文台副台长、学术委员会主任。主要研究方向包括黑洞吸积理论、活动星系核、黑洞双星、活动星系核反馈与星系演化等。发表论文 100 余篇, 包括一篇发表在天文和天体物理领域最权威的综述杂志上的论文, 是我国学者第一次在国内接到该刊邀请撰写综述。连续入选爱斯维尔中国高被引学者榜单。在 IAU Symposium 等重要国际会议做邀请报告 40 余次, 10 余次担任会议的科学组织委员会委员或主席。

