同位素地球化学国家重点实验室
State Key Laboratory of Isotope Geochemistry

学术报告

Asymmetric Plume Flow During South Atlantic Rifting: Causes and Consequences

报 告 人：**Prof. Jason P. Morgan（伦敦大学皇家霍洛威学院）**

报告时间：**11 月 15 日（周四）下午 15:00**

报告地点：**综合楼 701 会议室**

Pro. Jason P. Morgan，伦敦大学皇家霍洛威学院地球物理学教授，国际著名地球物理学家、地球动力学家。曾在麻省理工学院、斯克里普斯海洋研究所、**GEOMAR** 中心、康奈尔大学任职。其研究领域包括大陆岩石圈力学性质；金伯利岩的起源；蛇纹岩化对俯冲板片的影响；地幔对流机制；大洋中脊动力学；大洋下软流圈在地幔对流中的作用；俯冲板片脱水及水在俯冲带动力学中的作用；大陆裂谷与金伯利岩在地幔柱理论中的作用；大陆裂谷、溢流玄武岩、陨石撞击在生物大灭绝中的作用等。为了奖励其在大洋中脊、俯冲带、地幔柱以及三者与软流圈地幔相互作用等研究领域的杰出贡献，**EGU** 在 **2016** 年授予其 **Augustus Love** 奖章。**Prof. Morgan** 在 **Nature**、**Geology**、**JGR**、**EPSL** 等刊物发表论文 **300** 余篇，**H-index 50**，引用次数 **9000** 余次。

ABSTRACT: **During rifting along a plume-influenced continental margin, excess volcanism is defined by the transition from rifting to spreading being associated with much thicker than normal oceanic crust. The current conventional model is that the excess volcanism should be associated with the region of influence of a plume head, roughly centered about the starting plume tail's location below its quasi-spherical rising plume head. Here we investigate a different plume-linked hypothesis for the formation of excess volcanism during early plume-influenced continental rifting with 3-D calculations. We find that, in South Atlantic, plume material is predicted to be pulled southward from the Tristan plume as the rift develops, irrespective of whether the initial Tristan plume lay beneath the present-day African or South American continental lithosphere. Isostatic compensation of plume material ponding beneath the growing region of extending, thinning, continental lithosphere creates the elevated regional relief above the region where SDRs form — no plume head is needed to explain the source of this excess transient topographic anomaly.**