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Special Session 7: UAV-Borne Visual Data Processing and Application 无人机载视觉数据处理与应用

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(Select Track Special Session 7 to submit)

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Unmanned Aerial Vehicle (UAV) borne visual data processing and application is an emerging interdisciplinary research direction integrating computer vision, aerial photogrammetry, and intelligent sensing technology. With the rapid development of UAV platforms and high-resolution visual imaging equipment, UAV-borne visual data has become an important data source for earth observation, environmental monitoring, coastal zone survey, and marine target detection due to its advantages of flexible acquisition, high spatial-temporal resolution, and low cost. This special session focuses on the key scientific and technological issues and engineering application challenges in the whole chain of UAV-borne visual data processing, including image acquisition, preprocessing, feature extraction, target detection and recognition, image mosaic and 3D reconstruction, as well as the innovative application of UAV-borne visual technology in marine science, environmental protection, smart coasts and other fields. We invite scholars, researchers and engineers from all over the world to submit high-quality original papers, share the latest research results, technical breakthroughs and practical application experience, and jointly promote the development and industrialization of UAV-borne visual data processing and application technology.

无人机载视觉数据处理与应用是融合计算机视觉、航空摄影测量、智能感知技术的新兴交叉研究方向。随着无人机平台与高分辨率视觉成像设备的飞速发展，无人机载视觉数据凭借获取方式灵活、时空分辨率高、成本低廉等优势，成为地球观测、环境监测、海岸带调查、海洋目标检测的重要数据源。本专题聚焦无人机载视觉数据采集、预处理、特征提取、目标检测与识别、影像拼接与三维重建全链条中的关键科技问题与工程应用难点，同时关注无人机载视觉技术在海洋科学、环境保护、智慧海岸等领域的创新应用。诚邀全球相关领域学者、科研人员与工程技术人员投稿高质量原创论文，分享最新研究成果、技术突破与实际应用经验，共同推动无人机载视觉数据处理与应用技术的发展与产业化落地。

Topics of Interest (but not limited to)

1. UAV-borne visual image preprocessing
2. UAV image feature extraction and matching
3. UAV-borne target detection and recognition
4. UAV aerial image mosaic and stitching
5. UAV-borne visual data 3D reconstruction
6. UAV-borne multi-spectral visual fusion
7. UAV visual navigation and positioning
8. UAV-borne visual technology for marine monitoring
9. Coastal zone survey based on UAV vision
10. Lightweight algorithm for UAV visual processing