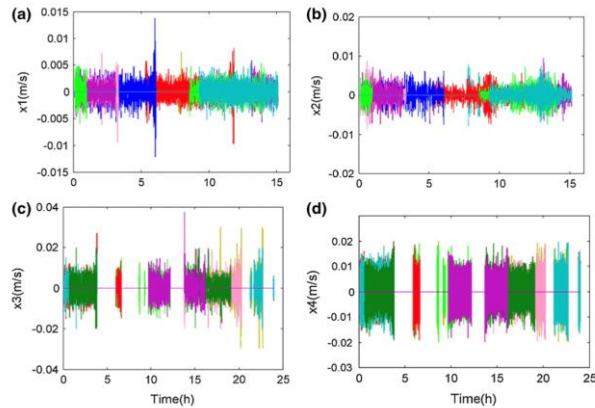


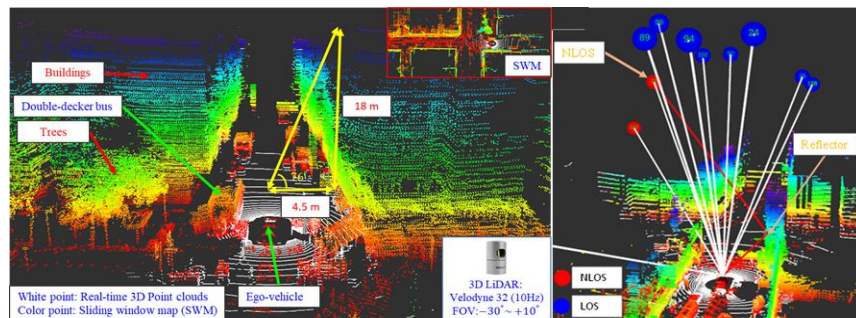
Satellite Communication and Navigation

STUDY I: Code Carrier Divergence Monitoring for GBAS [1]



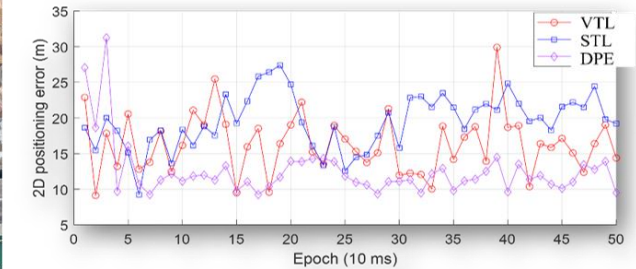
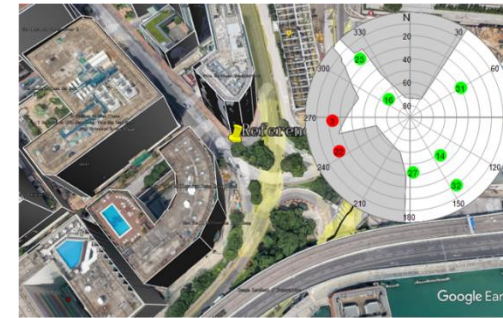
- An ionosphere-free dual frequency monitor is designed to replace the original single frequency monitor with improved performance
- Apply in Civil aviation navigation

STUDY III: 3D LiDAR aided GNSS positioning



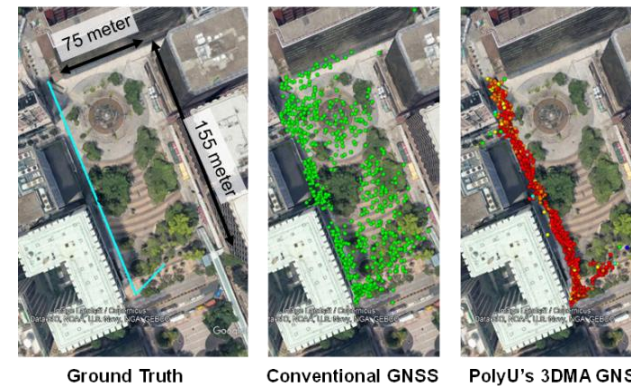
- TechConnect 2021 Global Innovation Award winner
- Apply in autonomous driving

STUDY II: Assessment of DPE performance in urban areas



- Prove that:
 - DPE outperforms conventional receiver architectures in moderate challenging environment
 - DPE performance degrades due to inaccurate signal models and noise assumptions in dense urban area

STUDY IV: 3D Mapping Aided GNSS for Smartphone in Urban Areas (3 year collaboration agreement with Huawei Technologies)



- Use 3D model to solve the GNSS signal reflection
- Increase the accuracy to around 5 meters (10 times better than the conventional method)
- Apply in smartphones