

Cycle Paths

ERPUG 2023

Athens, Greece

Update of a system to evaluate comfort & safety of cycle paths in Virginia

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Presentation

- **NSTSCCE Integrated Bicycle (mini-DAS)**
- **New updated version (micro-DAS)**
- **Initial results (sample output)**
- **Data transfer for decryption**
- **Data visualization options**
- **Test track validations**
- **Next steps**





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Set-up has the mini-DAS located forward of the top tube, which eliminates handlebar sway.



Battery

IMU/Hard
Drive/GPS

CZ (Previous meeting)





GPS

Battery

IMU/
Hard
Drive

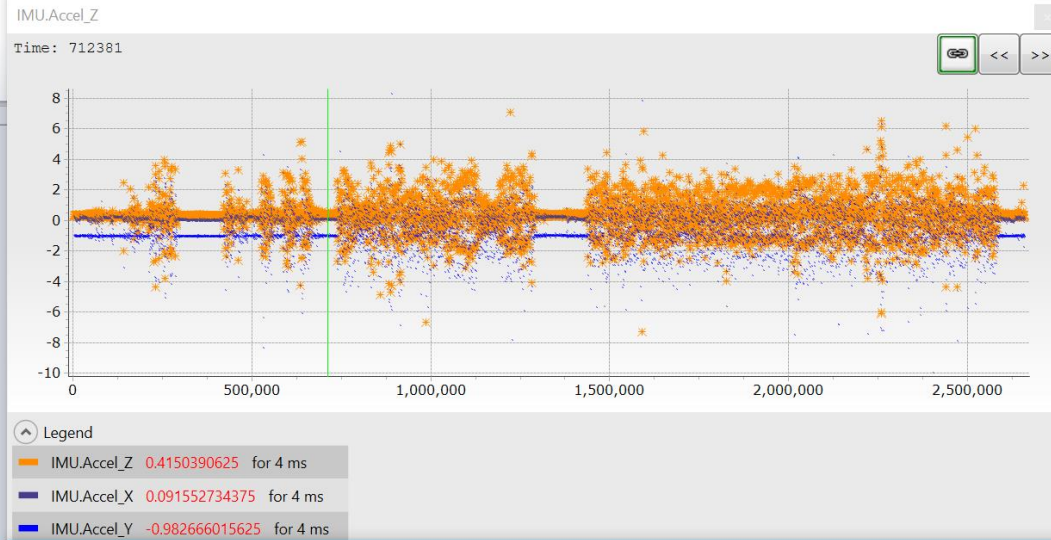
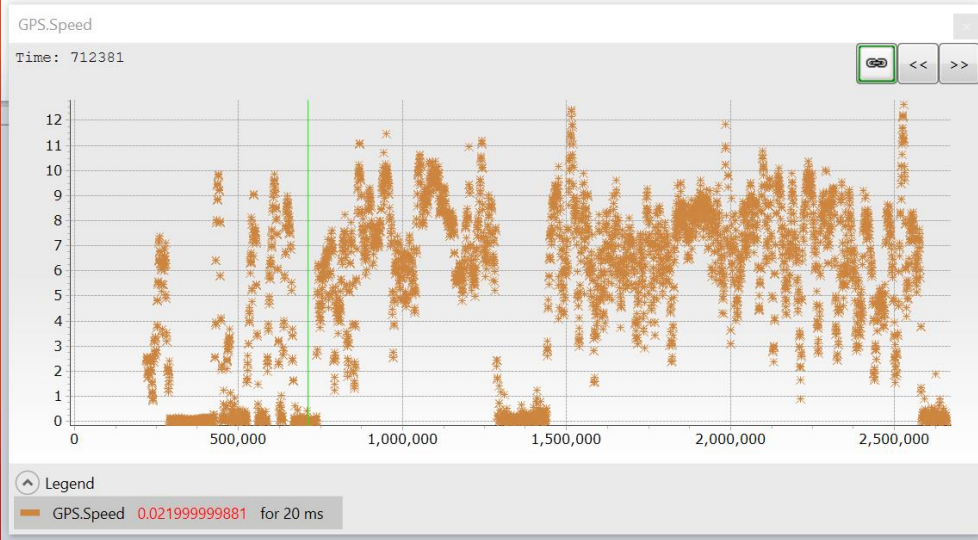


Camera

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bar



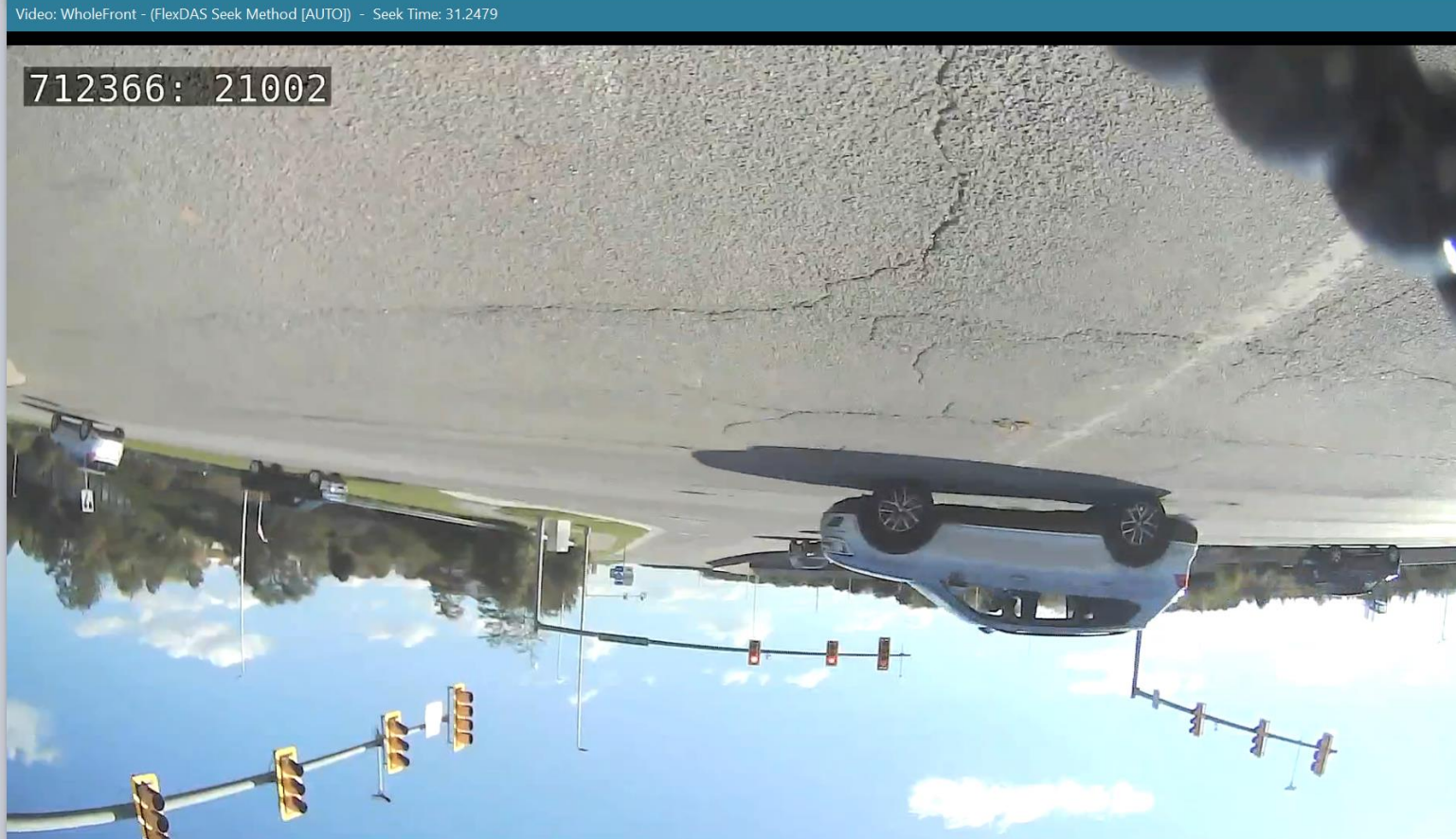
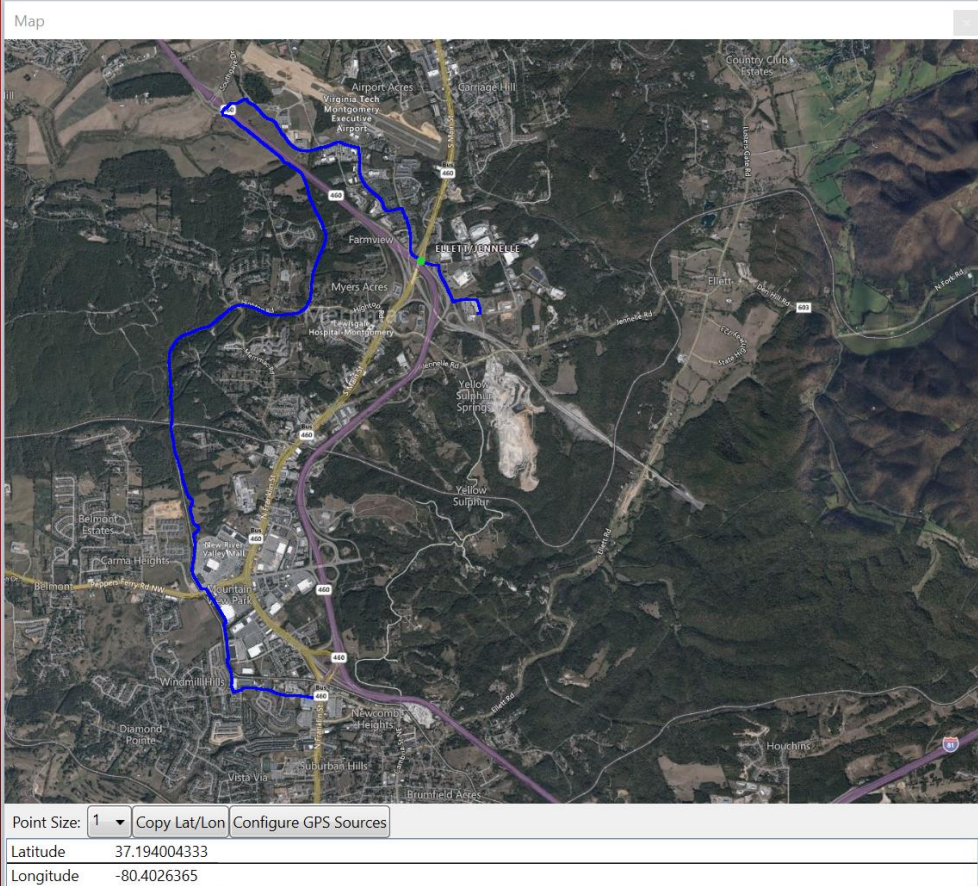




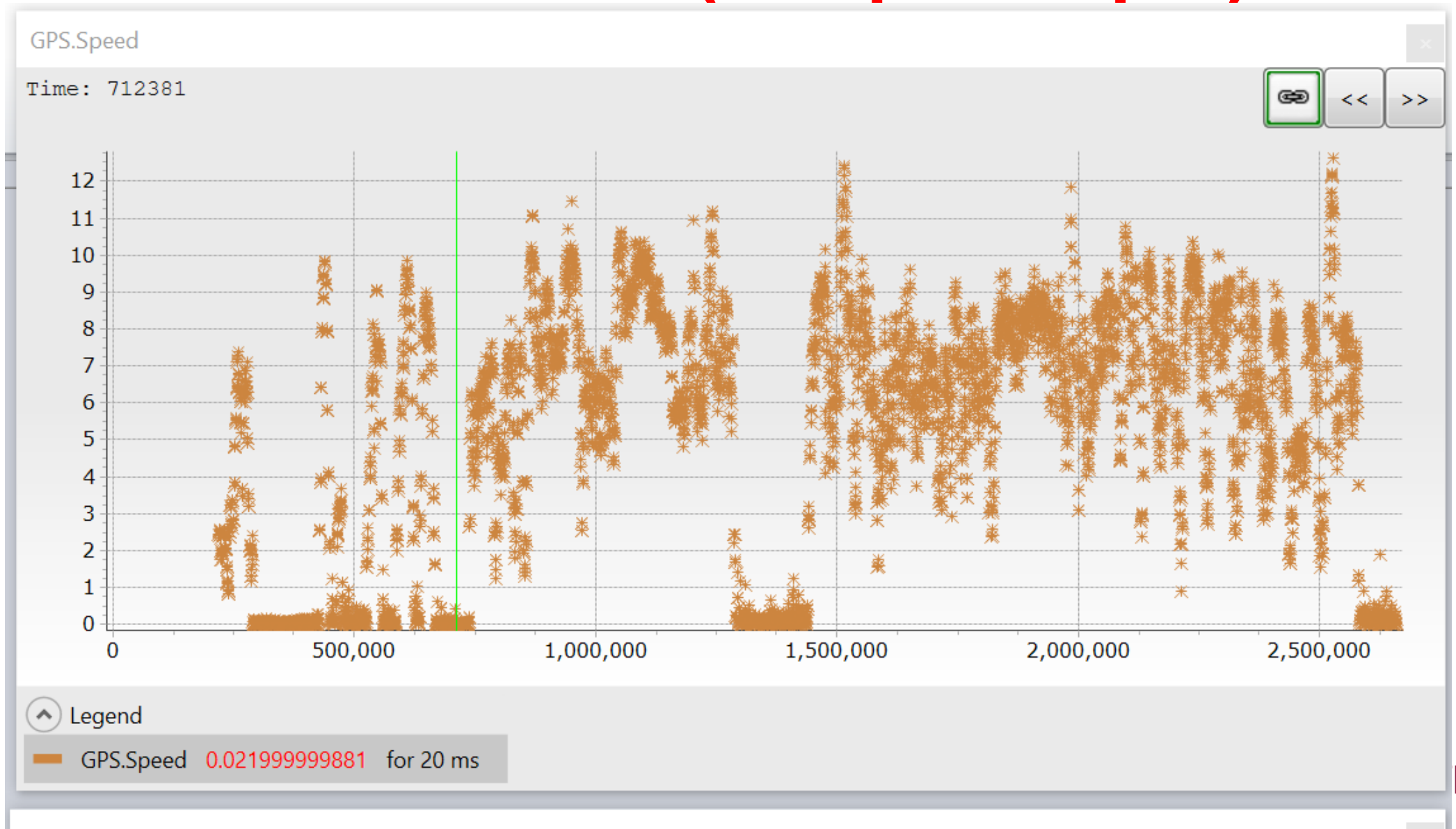
Section Navigation

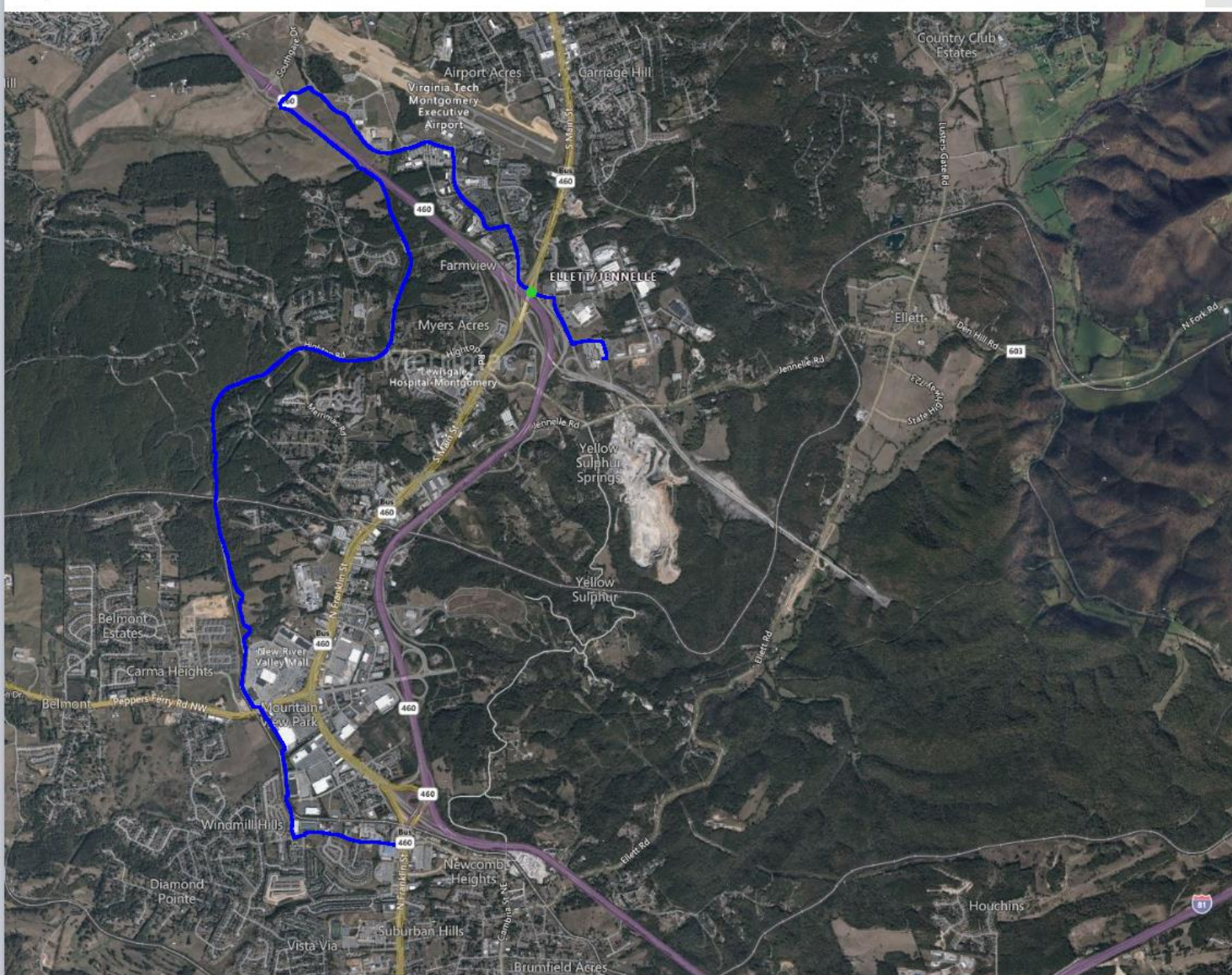
Section HEL Demo/Test

File Id	VTTI V...	Partici...	Locati...	Collected Dat...	Local Date
5944	3366	XX		10/10/2023 8:02...	
5820	3366	XX		10/6/2023 7:32 PM	
5773	3366	XX		10/6/2023 7:18 PM	
5852	3366	XX		10/6/2023 7:07 PM	
5788	3366	XX		10/6/2023 6:59 PM	
5865	3366	XX		10/6/2023 6:50 PM	
5881	3366	XX		10/6/2023 6:43 PM	
5427	677	77	52	10/20/2021 3:58...	
5245	0	0	00	7/24/2020 2:40 PM	
5158	0	0	00	7/24/2020 2:19 PM	
5273	0	0	00	7/24/2020 1:50 PM	



Initial results (sample output)





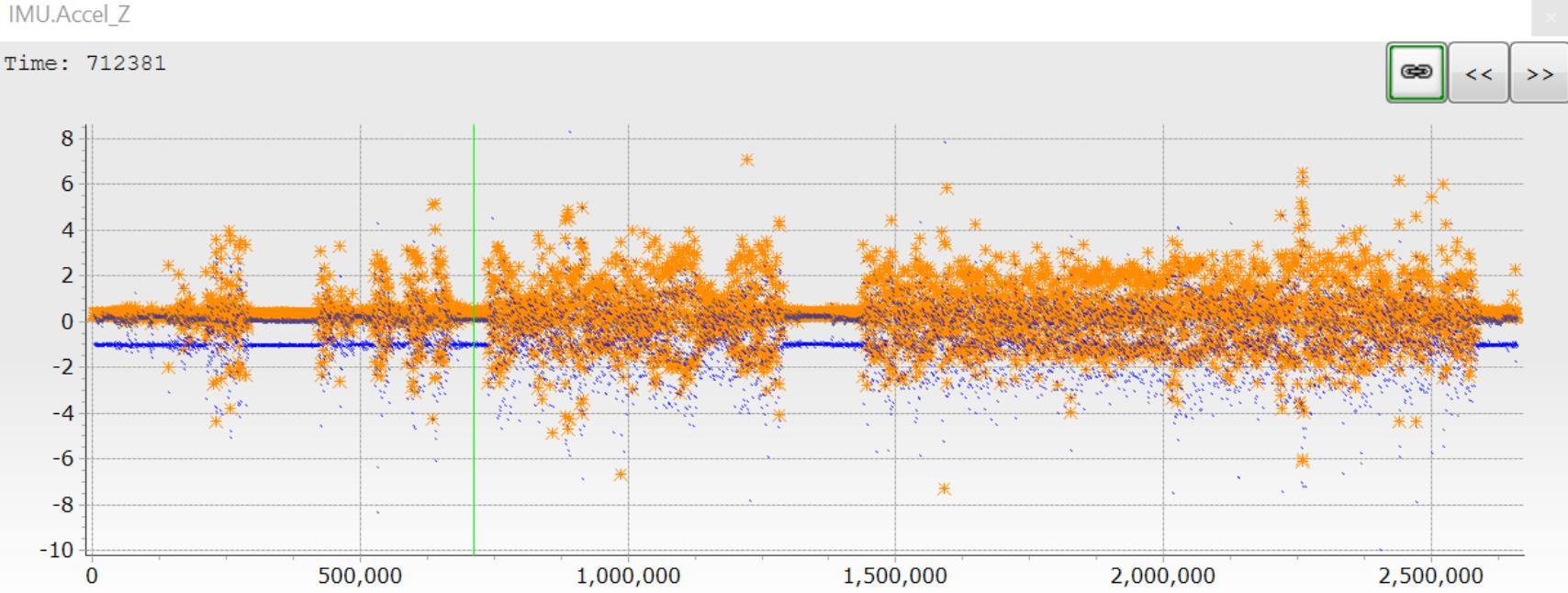
Initial results (sample output)

Point Size:	1	▼	Copy Lat/Lon	Configure GPS Sources
Latitude	37.194004333			
Longitude	-80.4026365			

Initial results (sample output)



Initial results (sample output)



Section Navigation

Collection HEL Demo/Test

File Id	VTTI V...	Partici...	Locati...	Collected Dat...	Local Date
5944		3366	XX	10/10/2023 8:02...	
5820		3366	XX	10/6/2023 7:32 PM	
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5881		3366	XX	10/6/2023 6:43 PM	
27	677	77	52	10/20/2021 3:58...	
15	0	0	00	7/24/2020 2:40 PM	
58	0	0	00	7/24/2020 2:19 PM	
73	0	0	00	7/24/2020 1:50 PM	

Legend

- IMU.Accel_Z 0.4150390625 for 4 ms
- IMU.Accel_X 0.091552734375 for 4 ms
- IMU.Accel_Y -0.982666015625 for 4 ms

Legend

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Video: WholeFront - (FlexDAS Seek Method [AUTO]) - Seek Time:

Video: WholeFront - (FlexDAS Seek Method [AUTO])

Data transfer for decryption

- **Transferring data to VTTI for decryption**
- **UNIX system**
- **Obtain only Raw data or**

- **Data visualization options (new software)**
- **New system?**

Next steps

- ✓ **Testing on Different bikes**
 - Racing or street
 - E-bikes
 - Scooters
- ✓ **Where is the best place for the DAS?**
- ✓ **Validations with street unit (rural road)**



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- ✓ **Reference Profiles**
- ✓ **New bicycle IRI modeling, etc.**
- ✓ **Spring comparison (Brussels?)**

Questions?

