Test 3: Airplane 360-Degree Turn

1.
This test will test the turning of an aircraft turning clockwise and verify it can perform a complete 360-degree turn.

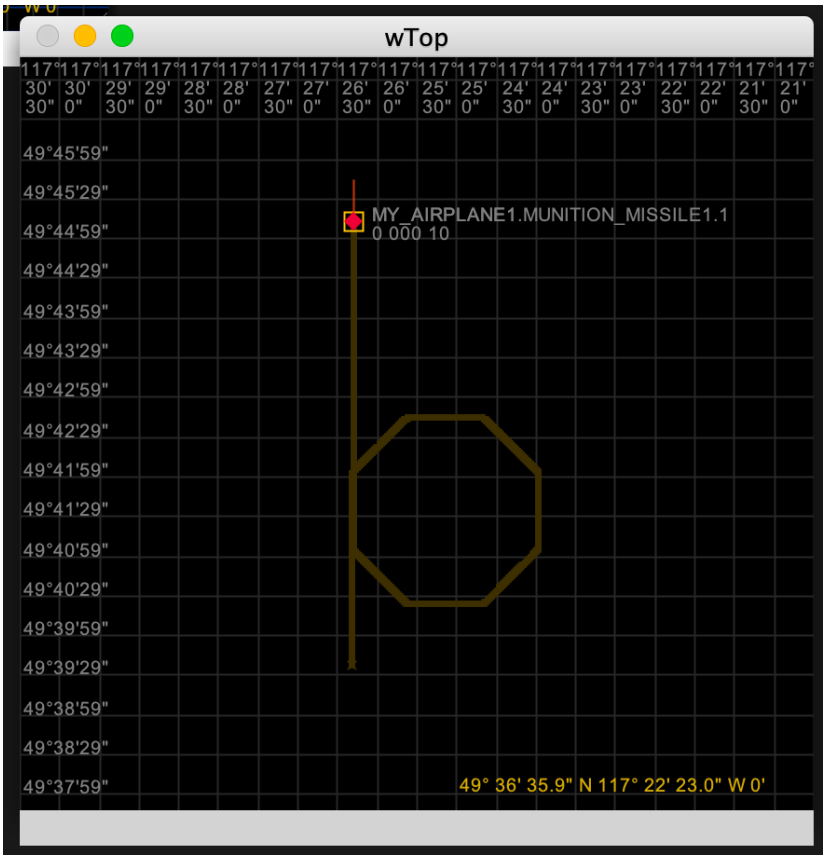
2.
MY_AIRPLANE1 starts facing north with an initial speed of 10.

3.
```
define sensor radar FUZE_RADAR1 with field of view 30 power 50
sensitivity 10
define sensor thermal FUZE_THERMAL1 with field of view 45
sensitivity 0.1

define munition missile MUNITION_MISSILE1 with sensor FUZE_RADAR1
fuze FUZE_THERMAL1 arming distance 1.0

define airplane ACTOR_AIRPLANE1 with munition (MUNITION_MISSILE1)

create actor MY_AIRPLANE1 from ACTOR_AIRPLANE1 at
49*39'37.9#/117*26'19.0#/0 with course 0 speed 10

set MY_AIRPLANE1 load munition MUNITION_MISSILE1

@wait 10

set MY_AIRPLANE1 course 45

@wait 4

set MY_AIRPLANE1 course 90

@wait 4

set MY_AIRPLANE1 course 135

@wait 4

set MY_AIRPLANE1 course 180

@wait 4
```

```
set MY_AIRPLANE1 course 225

@wait 4

set MY_AIRPLANE1 course 270

@wait 4

set MY_AIRPLANE1 course 315

@wait 4

set MY_AIRPLANE1 course 0
```

4.
`MY_AIRPLANE1` will travel north for 10 seconds and then turn clockwise 45 degrees. Every 4 seconds 45 degrees will be added to the previous heading until `MY_AIRPLANE1` is facing north again.

5.



6.

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed
1	238	8.33	airplane	MY_AIRPLANE1	49.66052778	117.4386111	0	0	10	0		
2	238	8.33	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66052778	117.4386111	0	0	10	0		
3	239	8.365	airplane	MY_AIRPLANE1	49.66066667	117.4386111	0	0	10	0		
4	239	8.365	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66066667	117.4386111	0	0	10	0	FALSE	FALSE
5	239	8.365	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66066667	117.4386111	0	0	10	0		
6	239	8.365	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66066667	117.4386111	0	0	10	0		
7	240	8.4	airplane	MY_AIRPLANE1	49.66080556	117.4386111	0	0	10	0		
8	240	8.4	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66080556	117.4386111	0	0	10	0	FALSE	FALSE
9	240	8.4	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66080556	117.4386111	0	0	10	0		
10	240	8.4	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66080556	117.4386111	0	0	10	0		
11	241	8.435	airplane	MY_AIRPLANE1	49.66094444	117.4386111	0	0	10	0		

At time 8.33 MY_AIRPLANE1 starts traveling north in event 1.

command	event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed
course MY_AIRPLANE1 45.0													
	1147	525	18.375	airplane	MY_AIRPLANE1	49.70038889	117.4386111	0	0	10	0		
	1148	525	18.375	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.70038889	117.4386111	0	0	10	0	FALSE	FALSE
	1149	525	18.375	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.70038889	117.4386111	0	0	10	0		
	1150	525	18.375	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.70038889	117.4386111	0	0	10	0		
	1151	526	18.41	airplane	MY_AIRPLANE1	49.70052778	117.4386111	0	10	10	0		
	1152	526	18.41	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.70052778	117.4386111	0	10	10	0	FALSE	FALSE
	1153	526	18.41	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.70052778	117.4386111	0	10	10	0		
	1154	526	18.41	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.70052778	117.4386111	0	10	10	0		
	1155	527	18.445	airplane	MY_AIRPLANE1	49.70066456	117.438587	0	20	10	0		
	1156	527	18.445	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.70066456	117.438587	0	20	10	0	FALSE	FALSE
	1157	527	18.445	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.70066456	117.438587	0	20	10	0		
	1158	527	18.445	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.70066456	117.438587	0	20	10	0		
	1159	528	18.48	airplane	MY_AIRPLANE1	49.70079507	117.4385395	0	30	10	0		
	1160	528	18.48	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.70079507	117.4385395	0	30	10	0	FALSE	FALSE

At time 18.375 MY_AIRPLANE1 starts changing its heading to 45 degrees in event 1147, 10 seconds after MY_AIRPLANE1 started traveling.

course MY_AIRPLANE1 90.0												
1611	641	22.435	airplane	MY_AIRPLANE1	49.71200929	117.427575	0	45	10	0		
1612	641	22.435	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.71200929	117.427575	0	45	10	0	FALSE	FALSE
1613	641	22.435	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.71200929	117.427575	0	45	10	0		
1614	641	22.435	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.71200929	117.427575	0	45	10	0		
1615	642	22.47	airplane	MY_AIRPLANE1	49.7121075	117.4274768	0	55	10	0		
1616	642	22.47	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.7121075	117.4274768	0	55	10	0	FALSE	FALSE
1617	642	22.47	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.7121075	117.4274768	0	55	10	0		
1618	642	22.47	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.7121075	117.4274768	0	55	10	0		
1619	643	22.505	airplane	MY_AIRPLANE1	49.71218716	117.427363	0	65	10	0		
1620	643	22.505	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.71218716	117.427363	0	65	10	0	FALSE	FALSE
1621	643	22.505	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.71218716	117.427363	0	65	10	0		
1622	643	22.505	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.71218716	117.427363	0	65	10	0		
1623	644	22.54	airplane	MY_AIRPLANE1	49.71224586	117.4272371	0	75	10	0		
1624	644	22.54	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.71224586	117.4272371	0	75	10	0	FALSE	FALSE

At time 22.435 MY_AIRPLANE1 starts changing its heading to 90 degrees in event 1611, 4 seconds after MY_AIRPLANE1's last turn.

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_atten
4412	1341	46.935	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.68484031	117.4384705	0	355	10	0	FALSE	FALSE		1.5	1.5
4413	1341	46.935	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.68484031	117.4384705	0	355	10	0				25	25
4414	1341	46.935	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.68484031	117.4384705	0	355	10	0					
4415	1342	46.97	airplane	MY_AIRPLANE1	49.68497867	117.4384826	0	0	10	0					
4416	1342	46.97	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.68497867	117.4384826	0	0	10	0	FALSE	FALSE		1.5	1.5
4417	1342	46.97	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.68497867	117.4384826	0	0	10	0				25	25
4418	1342	46.97	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.68497867	117.4384826	0	0	10	0					
4419	1343	47.005	airplane	MY_AIRPLANE1	49.68511756	117.4384826	0	0	10	0					
4420	1343	47.005	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.68511756	117.4384826	0	0	10	0	FALSE	FALSE		1.5	1.5
4421	1343	47.005	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.68511756	117.4384826	0	0	10	0				25	25
4422	1343	47.005	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.68511756	117.4384826	0	0	10	0					
4423	1344	47.04	airplane	MY_AIRPLANE1	49.68525645	117.4384826	0	0	10	0					
4424	1344	47.04	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.68525645	117.4384826	0	0	10	0	FALSE	FALSE		1.5	1.5

After turning every 4 seconds multiple times, at time 46.935 MY_AIRPLANE1 is has now completed a 360-degree clockwise turn.

7. The actual results are in accordance with the expected results, `MY_AIRPLANE1` turned 45 degrees clockwise 10 seconds after it started traveling and every other 4 seconds, `MY_AIRPLANE1` changed its course by an additional 45 degrees until it was facing northing again completing a 360 degree clockwise turn in an octagon shaped path.

8. `MY_AIRPLANE1` should vary its speed and turn degree interval as it progresses to complete a 360-degree clockwise turn.

Test 17: Missile, Radar Sensor, Distance Fuze

1.
This test will verify that a missile can be fired from a ship towards an aircraft and guide itself using a radar sensor and a distance fuze to detonate after the missile has covered a certain distance.

2.

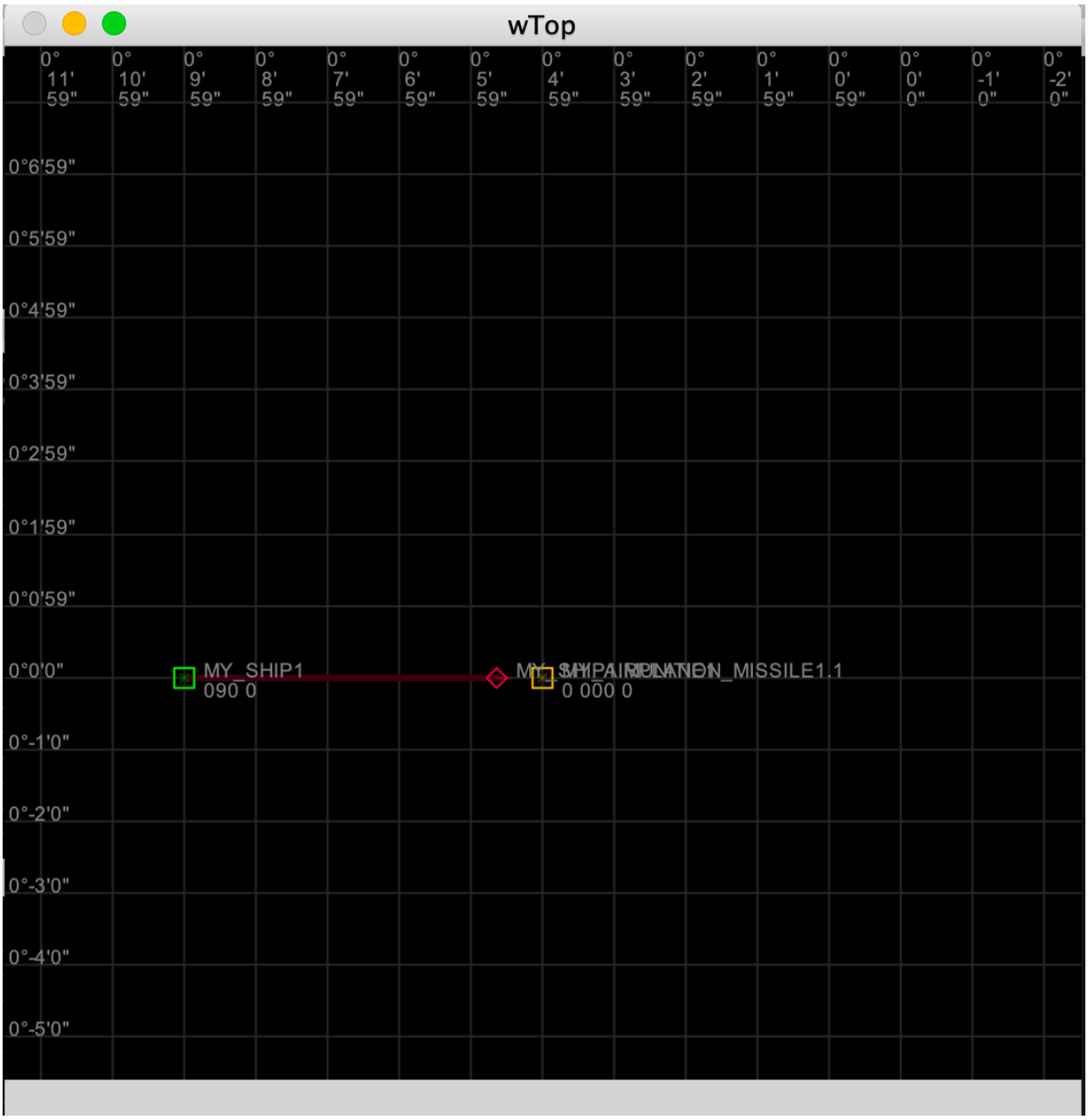
A ship `MY_SHIP1` starts off at a stationary location facing east, with no speed. `MY_SHIP1` is equipped with a missile that has a radar sensor and a distance fuze. An aircraft `MY_AIRPLANE1` starts off with a speed of 0 with a longitude of 5 minutes away from `MY_SHIP1` facing north.

3.

```
delete window wTop
create window wTop top view with 350 (0*0'0# 0*15'0# 0*1'0.0#)
(0*5'0# 0*15'0# 0*1'0.0#)

define sensor radar SENSOR_RADAR1 with field of view 30 power 50
sensitivity 10
define sensor distance FUZE_DISTANCE1 with trigger distance 5.0

define munition missile MUNITION_MISSILE1 with sensor
SENSOR_RADAR1 fuze FUZE_DISTANCE1 arming distance 1

define ship ACTOR_SHIP1 with munition (MUNITION_MISSILE1)

define airplane ACTOR_AIRPLANE1 with munition (MUNITION_MISSILE1)

create actor MY_SHIP1 from ACTOR_SHIP1 at 0*0'0.0#/0*10'0.0#/0
with course 90 speed 0

create actor MY_AIRPLANE1 from ACTOR_AIRPLANE1 at
0*0'0.0#/0*5'0.0#/0 with course 0 speed 0

set MY_SHIP1 load munition MUNITION_MISSILE1

@wait 10

set MY_SHIP1 deploy munition MY_SHIP1.MUNITION_MISSILE1.1
```

4. After 10 seconds, `MY_SHIP1` will fire `MY_SHIP1.MUNITION_MISSILE1.1` and will travel directly east towards the direction of `MY_AIRPLANE1`. Once the missile has covered 5 nautical miles, the missile will detonate.

5.



6.

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_attenuated	distance_elapsed	time_elapse	target_bearir
1	218	7.63	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								
2	218	7.63	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
3	218	7.63	missile	MY_SHIP1.MUNITION_MISSILE1.1	0	0.166666667	0	90	0	0	FALSE	FALSE						
4	218	7.63	distance	MY_SHIP1.MUNITION_MISSILE1.1.FUZE_DISTANCE1.2	0	0.166666667	0	90	0	0								0
5	218	7.63	radar	MY_SHIP1.MUNITION_MISSILE1.1.SENSOR_RADAR1.1	0	0.166666667	0	90	0	0				0	0			
6	219	7.665	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								

MY_SHIP1.MUNITION_MISSILE1.1 starts of at longitude 0.166667 in event 3

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_attenuated	distance_elapsed	time_elapse	target_
3611	940	32.9	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								
3612	940	32.9	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
3613	940	32.9	missile	MY_SHIP1.MUNITION_MISSILE1.1	0	0.094166667	0	90	4	0	TRUE	TRUE						
3614	940	32.9	distance	MY_SHIP1.MUNITION_MISSILE1.1.FUZE_DISTANCE1.2	0	0.094166667	0	90	4	0						5.005893		
3615	940	32.9	radar	MY_SHIP1.MUNITION_MISSILE1.1.SENSOR_RADAR1.1	0	0.094166667	0	90	4	0			MY_AIRPLANE1	50	60.15986481			
3616	941	32.935	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								
3617	941	32.935	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
3618	941	32.935	missile	MY_SHIP1.MUNITION_MISSILE1.1	0	0.094	0	90	4	0	TRUE	TRUE						
3619	942	32.97	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								
3620	942	32.97	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
3621	943	33.005	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								
3622	943	33.005	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
3623	944	33.04	airplane	MY_AIRPLANE1	0	0.083333333	0	0	0	0								

MY_SHIP.MUNITION_MISSILE1.1 detonates at a longitude of 0.094 in event 3618

It can be observed that the missile did travel east as expected and then detonated after it covered about 0.072667 (0.166667-0.94) in longitude.

7. The actual results are inconsistent with the expected results, MY_SHIP.MUNITION_MISSILE1 detonated after about 4.36 nautical miles, the expected distance was 5 nautical. However, MY_SHIP.MUNITION_MISSILE1 did travel about 5.02 regular miles.

8. Altitude should vary between 2 different actors during a test.

Test 20: Missile, Radar Sensor, Time Fuze

1.
This test will verify that a missile can be fired from a ship towards an aircraft and guide itself using a radar sensor and a time fuze to detonate after the missile has been deployed for a certain amount of time.

2.

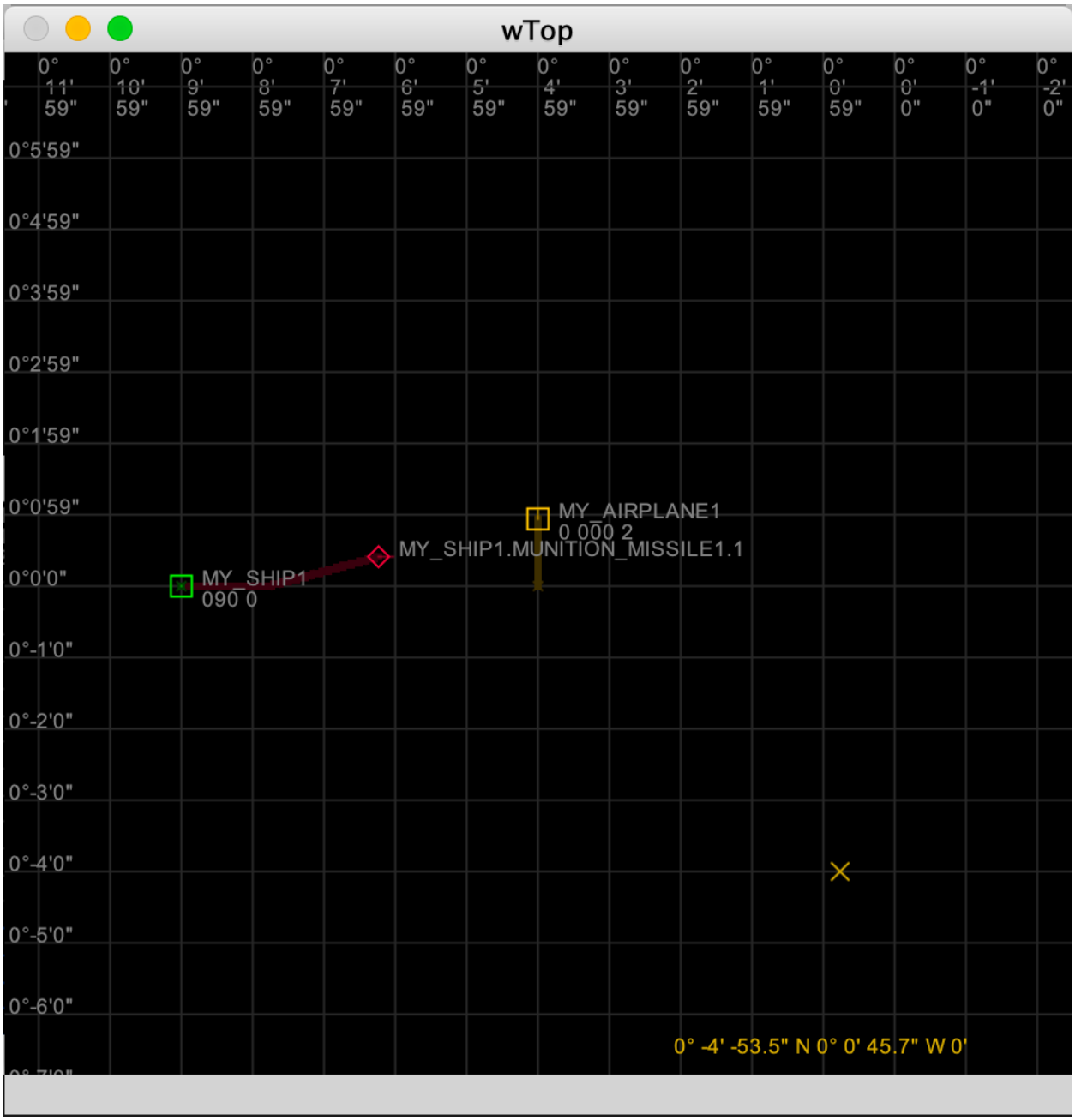
A ship MY_SHIP1 starts off at a stationary location facing east, with no speed. MY_SHIP1 is equipped with a missile that has a radar sensor and a distance fuze. An aircraft MY_AIRPLANE1 starts off with a speed of 0 with a longitude of 5 minutes away from MY_SHIP1 facing north.

3.

```
delete window wTop
create window wTop top view with 350 (0*0'0# 0*15'0# 0*1'0.0#)
(0*5'0# 0*15'0# 0*1'0.0#)

define sensor radar SENSOR_RADAR1 with field of view 30 power 50
sensitivity 10
define sensor time FUZE_TIME1 with trigger time 10.0

define munition missile MUNITION_MISSILE1 with sensor
SENSOR_RADAR1 fuze FUZE_TIME1 arming distance 1

define ship ACTOR_SHIP1 with munition (MUNITION_MISSILE1)

define airplane ACTOR_AIRPLANE1 with munition (MUNITION_MISSILE1)

create actor MY_SHIP1 from ACTOR_SHIP1 at 0*0'0.0#/0*10'0.0#/0
with course 90 speed 0

create actor MY_AIRPLANE1 from ACTOR_AIRPLANE1 at
0*0'0.0#/0*5'0.0#/0 with course 0 speed 2

set MY_SHIP1 load munition MUNITION_MISSILE1

@wait 10
set MY_SHIP1 deploy munition MY_SHIP1.MUNITION_MISSILE1.1
```

4. After 10 seconds, MY_SHIP1 will fire `MY_SHIP1.MUNITION_MISSILE1.1` and will travel towards the direction of `MY_AIRPLANE1`. Once the missile has been deployed for 10 seconds it will detonate.

5.



6.

command	event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_attenuated	distance_elapsed	time_elapsed
deploy	MY_SHIP1.MUNITION_MISSILE1.1																	
	1434	697	24.395	airplane	MY_AIRPLANE1	0.007972222	0.083333333	0	0	2	0							
	1435	697	24.395	ship	MY_SHIP1	0	0.166666667	0	90	0	0							
	1436	697	24.395	missile	MY_SHIP1.MUNITION_MISSILE1.1	0	0.166666667	0	90	0	0	TRUE	FALSE					
	1437	697	24.395	time	MY_SHIP1.MUNITION_MISSILE1.1.FUZE_TIME1.2	0	0.166666667	0	90	0	0							0
	1438	697	24.395	radar	MY_SHIP1.MUNITION_MISSILE1.1.SENSOR_RADAR1.1	0	0.166666667	0	90	0	0				0	0		
	1439	698	24.43	airplane	MY_AIRPLANE1	0.008	0.083333333	0	0	2	0							
	1440	698	24.43	ship	MY_SHIP1	0	0.166666667	0	90	0	0							
	1441	698	24.43	missile	MY_SHIP1.MUNITION_MISSILE1.1	0	0.166611111	0	90	4	0	TRUE	FALSE					
	1442	698	24.43	time	MY_SHIP1.MUNITION_MISSILE1.1.FUZE_TIME1.2	0	0.166611111	0	90	4	0							0.035
	1443	698	24.43	radar	MY_SHIP1.MUNITION_MISSILE1.1.SENSOR_RADAR1.1	0	0.166611111	0	90	4	0				49.77087709	7.754439463		

MY_SHIP1.MUNITION_MISSILE1.1 is deployed at time 24.395 at event number 1436

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_attenuated	distance_elapsed	time_elapsed	target_bearing
2861	982	34.37	missile	MY_SHIP1.MUNITION_MISSILE1.1	0.00675	0.121086435	0	90	4	0	TRUE	TRUE						
2862	982	34.37	time	MY_SHIP1.MUNITION_MISSILE1.1.FUZE_TIME1.2	0.00675	0.121086435	0	90	4	0							9.975	
2863	982	34.37	radar	MY_SHIP1.MUNITION_MISSILE1.1.SENSOR_RADAR1.1	0.00675	0.121086435	0	90	4	0			MY_AIRPLANE1	48.59644552	16.30742251			
2864	983	34.405	airplane	MY_AIRPLANE1	0.015916667	0.083333333	0	0	2	0								
2865	983	34.405	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
2866	983	34.405	missile	MY_SHIP1.MUNITION_MISSILE1.1	0.00675	0.120919768	0	60	4	0	TRUE	TRUE						
2867	983	34.405	time	MY_SHIP1.MUNITION_MISSILE1.1.FUZE_TIME1.2	0.00675	0.120919768	0	60	4	0							10.01	
2868	983	34.405	radar	MY_SHIP1.MUNITION_MISSILE1.1.SENSOR_RADAR1.1	0.00675	0.120919768	0	60	4	0			MY_AIRPLANE1	48.57624199	16.36611665			
2869	984	34.44	airplane	MY_AIRPLANE1	0.015944444	0.083333333	0	0	2	0								
2870	984	34.44	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
2871	984	34.44	missile	MY_SHIP1.MUNITION_MISSILE1.1	0.006833333	0.120775431	0	90	4	0	TRUE	TRUE						
2872	985	34.475	airplane	MY_AIRPLANE1	0.015972222	0.083333333	0	0	2	0								
2873	985	34.475	ship	MY_SHIP1	0	0.166666667	0	90	0	0								
2874	986	34.51	airplane	MY_AIRPLANE1	0.016	0.083333333	0	0	2	0								

MY_SHIP1.MUNITION_MISSILE1.1 detonates at time 34.44 at event number 2871 towards the direction of MY_AIRPLANE1.

7. The results are as expected, 10 seconds after the missile was deployed, it detonated.

8. Multiple missiles should be launched at different times with different fuze timers and verify that the desired time for each missile is consistent with the time it takes to detonate.

Test 21: Missile, Thermal Sensor, Radar Fuze

1.
This test verifies that a missile equipped with a thermal sensor and radar fuze can be fired from an airplane towards a ship.

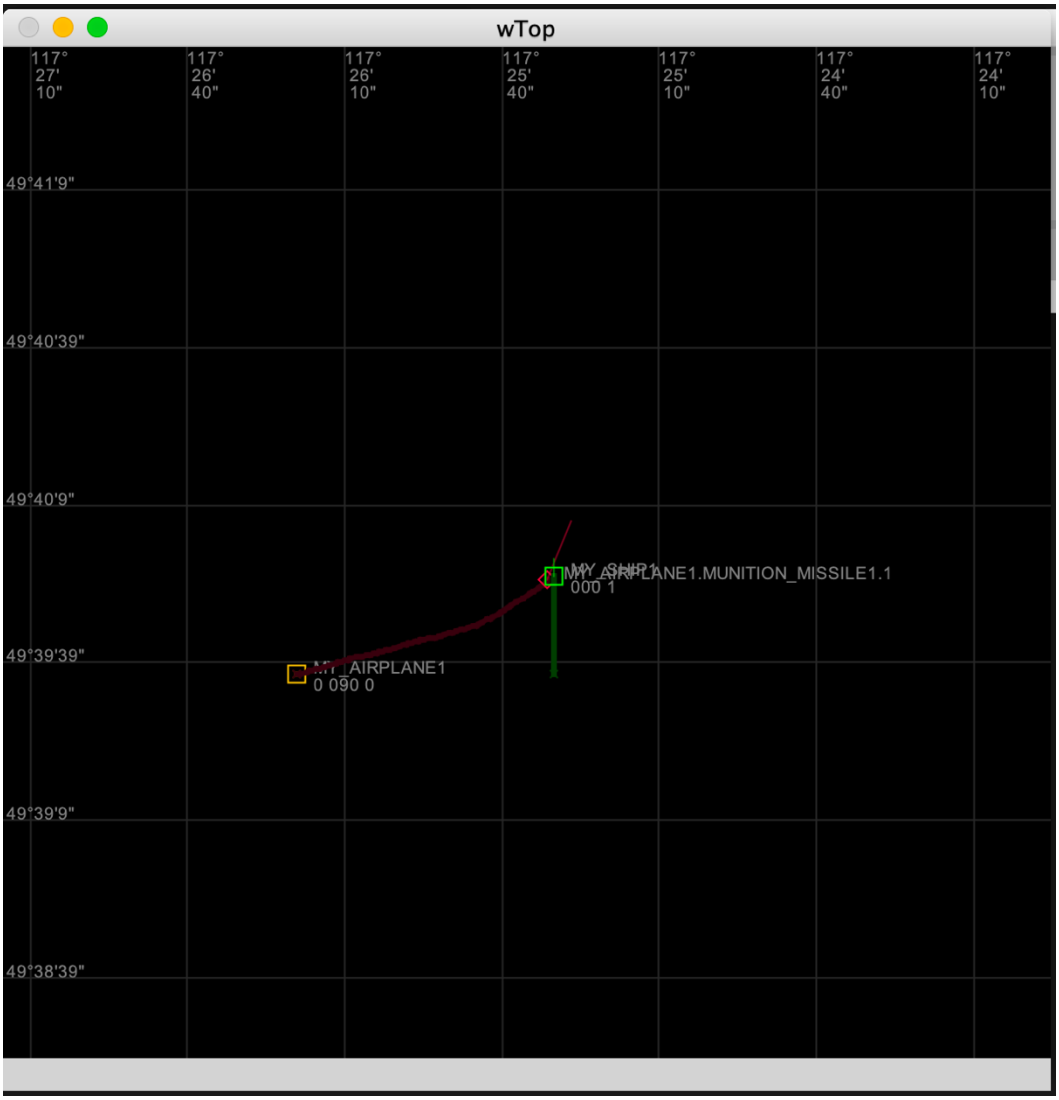
2.
An airplane MY_AIRPLANE1 starts off at a stationary location facing east, with no speed. MY_AIRPLANE1 is equipped with a missile that has a thermal sensor and a radar fuze sensor. A ship MY_SHIP1 starts off with a speed of 1 with a longitude of 30 seconds away from MY_AIRPLANE1 facing north.

3.
```
define sensor radar FUZE_RADAR1 with field of view 30 power 50
sensitivity 10
define sensor thermal FUZE_THERMAL1 with field of view 45
sensitivity 0.1

define munition missile MUNITION_MISSILE1 with sensor FUZE_RADAR1
fuze FUZE_THERMAL1 arming distance 1.0

define airplane ACTOR_AIRPLANE1 with munition (MUNITION_MISSILE1)

define ship ACTOR_SHIP1 with munition (MUNITION_MISSILE1)

create actor MY_AIRPLANE1 from ACTOR_AIRPLANE1 at
49*39'37.9#/117*26'19.0#/0 with course 90 speed 0

create actor MY_SHIP1 from ACTOR_SHIP1 at
49*39'37.9#/117*25'30.0#/0 with course 0 speed 1

set MY_AIRPLANE1 load munition MUNITION_MISSILE1

@wait 10

set MY_AIRPLANE1 deploy munition MY_AIRPLANE1.MUNITION_MISSILE1.1
```

4. After 10 seconds, MY_AIRPLANE1 will launch missile MY_AIRPLANE1.MUNITION_MISSILE1.1

The missile should chase after MY_SHIP1 and eventually strike MY_SHIP1.

5.



6.

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_attenuated	distance_ela	time_elapse	target_beari
1428	360	12.6	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66052778	117.438611	0	90	0	0	FALSE	FALSE						
1429	360	12.6	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66052778	117.438611	0	90	0	0			MY_SHIP1	0.15	0.137932628			
1430	360	12.6	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66052778	117.438611	0	90	0	0			MY_SHIP1	48.01095919	44.14851858			
1431	361	12.635	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								90
1432	361	12.635	ship	MY_SHIP1	49.6645	117.425	0	0	1	0								
1433	361	12.635	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66052778	117.438611	0	90	0	0	TRUE	FALSE						
1434	361	12.635	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66052778	117.438611	0	90	0	0			MY_SHIP1	0.15	0.137894838			
1435	361	12.635	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66052778	117.438611	0	90	0	0			MY_SHIP1	47.99780523	44.12433042			
1436	362	12.67	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								89.9415349
1437	362	12.67	ship	MY_SHIP1	49.66451389	117.425	0	0	1	0								
1438	362	12.67	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66052778	117.438444	0	90	4	0	TRUE	FALSE						
1439	362	12.67	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66052778	117.438444	0	90	4	0			MY_SHIP1	0.15	0.139428606			
1440	362	12.67	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66052778	117.438444	0	90	4	0			MY_SHIP1	47.93740693	44.55897218			
1441	363	12.705	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								89.88307

event_num	event_group	time	agent_type	agent_id	latitude	longitude	altitude	course	speed_horizontal	speed_vertical	deployed	armed	target_id	power_raw	power_attenuated	distance_ela	time_elapse	target_beari
1863	447	15.645	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66524271	117.425588	0	53.33922593	4	0	TRUE	FALSE						
1864	447	15.645	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66524271	117.425588	0	53.33922593	4	0			MY_SHIP1	0.15	2.636136596			
1865	447	15.645	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66524271	117.425588	0	53.33922593	4	0			MY_SHIP1	39.6562492	696.9285986			
1866	448	15.68	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								
1867	448	15.68	ship	MY_SHIP1	49.66570833	117.425	0	0	1	0								90
1868	448	15.68	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66534422	117.425456	0	52.47851267	4	0	TRUE	FALSE						
1869	448	15.68	thermal	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_THERMAL1.2	49.66534422	117.425456	0	52.47851267	4	0			MY_SHIP1	0.15	3.350311291			
1870	448	15.68	radar	MY_AIRPLANE1.MUNITION_MISSILE1.1.FUZE_RADAR1.1	49.66534422	117.425456	0	52.47851267	4	0			MY_SHIP1	39.07436192	872.7418395			
1871	449	15.715	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								
1872	449	15.715	ship	MY_SHIP1	49.66572222	117.425	0	0	1	0								89.9415349
1873	449	15.715	missile	MY_AIRPLANE1.MUNITION_MISSILE1.1	49.66549823	117.425392	0	22.47851267	4	0	TRUE	TRUE						
1874	450	15.75	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								
1875	450	15.75	ship	MY_SHIP1	49.66573611	117.425	0	0	1	0								
1876	451	15.785	airplane	MY_AIRPLANE1	49.66052778	117.438611	0	90	0	0								
1877	451	15.785	ship	MY_SHIP1	49.66575	117.425	0	0	1	0								89.88307

Log entry 1433 shows that `MY_AIRPLANE1.MUNITION_MISSILE1.1` has been deployed after 10 seconds towards `MY_SHIP1`. Entry 1873 shows `MY_AIRPLANE1.MUNITION_MISSILE1.1` striking `MY_SHIP1`.

7.

The actual results are constituent with the expected results.

8.

A different ship should target `MY_SHIP1` instead of an aircraft, this would verify that a missile can be deployed from different types of actors.