



Sygnal

Шифрин Марк, Бучилкин Никита, Христолюбов Никита

Куратор проекта Носова С.А.



Команда проекта

1. Программист-Математик (Шифрин Марк)
2. Backend-разработчик (Бучилкин Никита)
3. Frontend-разработчик (Христолюбов Никита)

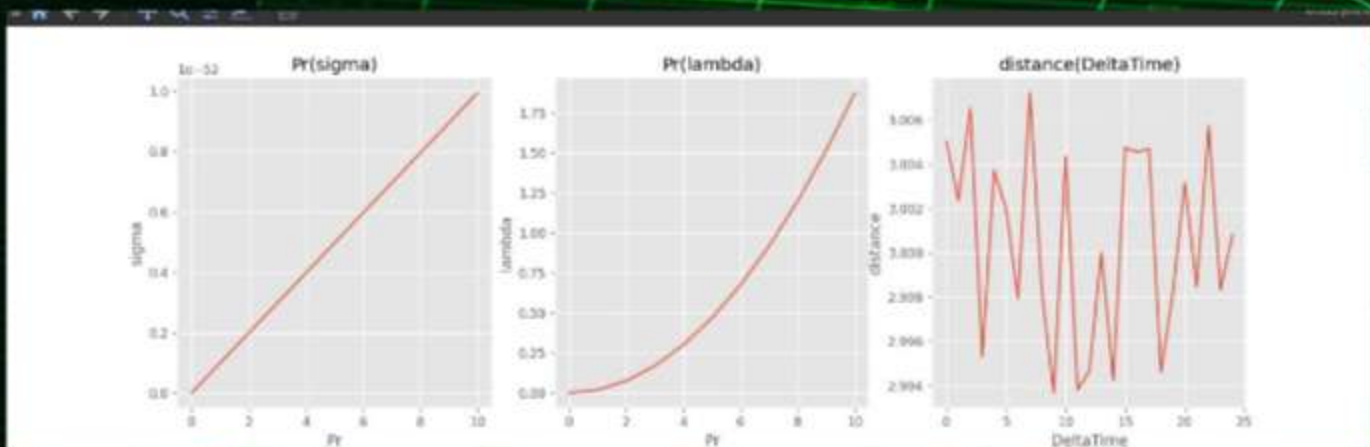
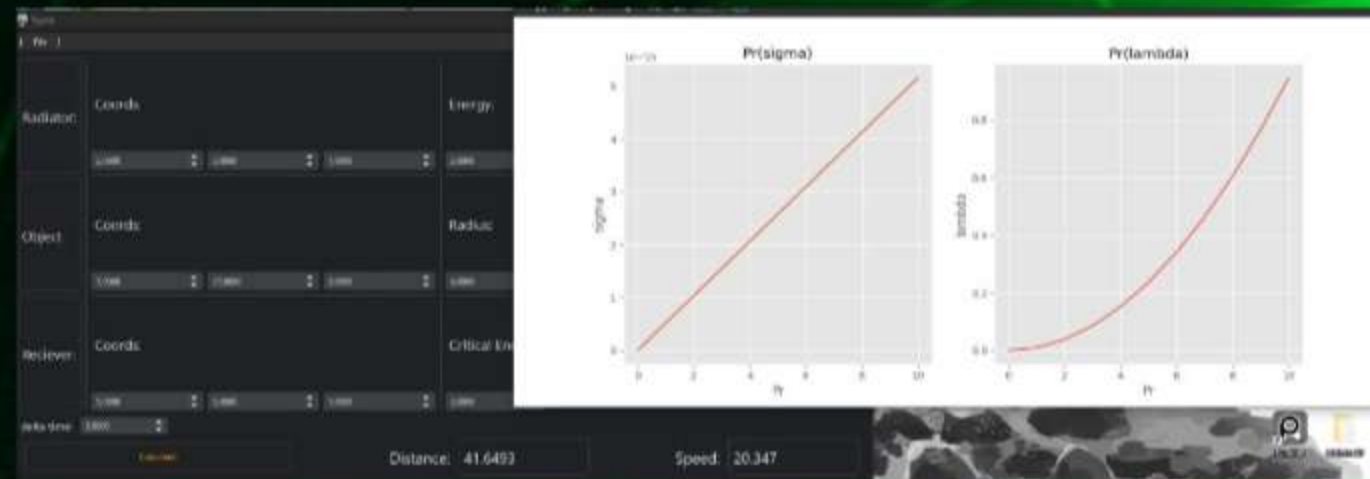
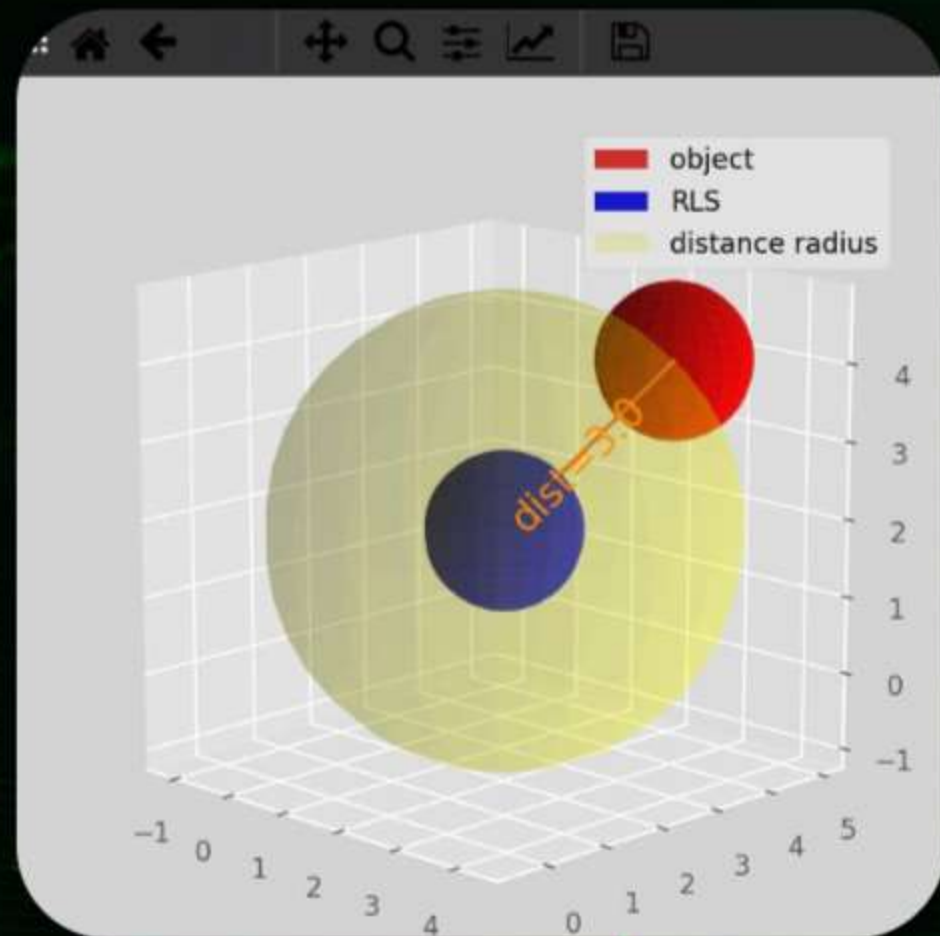


Цель проекта

**Разработать
модель
радиолокационной
станции**



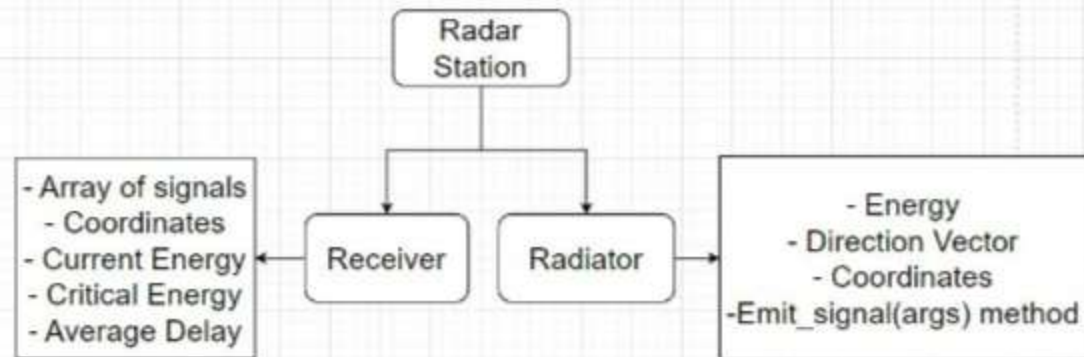
Визуализация



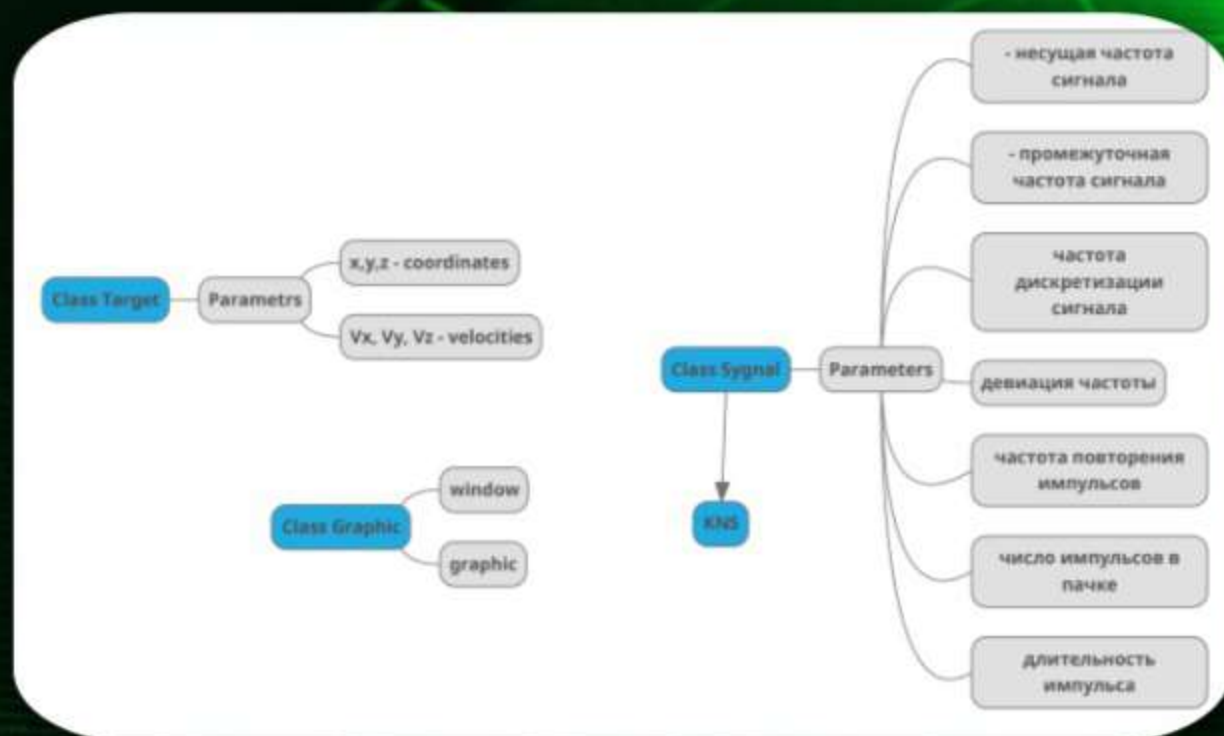
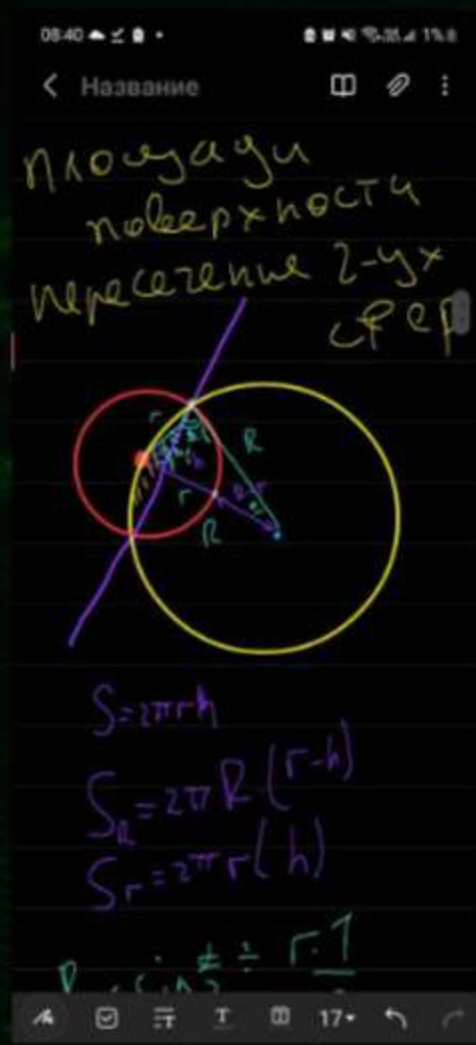
Архитектура

```
#include <iostream>
#include <string>
#include <stdexcept>
#include <vector>
#include <fstream>
#include "Headers/vector3d.h"
#include "Headers/object.h"
#include "Headers/radiator.h"
#include "Headers/receiver.h"
#include "Headers/signal.h"
#include "Headers/muffler.h"
#include "Libs/json.hpp"
```

.....



Математика



$$MSE = \frac{1}{N} \sum_{i=1}^N (Y_i - \hat{Y}_i)^2$$



Результат

Signal

File Draw

Object	Coords:	Radius:	Ref. Index:	Speed :
	<input type="text" value="3.0000"/> <input type="text" value="4.0000"/> <input type="text" value="4.0000"/>	<input type="text" value="1.0000"/> <input type="text" value="6.0000"/>	<input type="text" value="1.0000"/> <input type="text" value="0.0000"/> <input type="text" value="0.0000"/>	

RL station:	Coords:	Critical Energy:	Energy:	Direction:	Amplification:
	<input type="text" value="2.0000"/> <input type="text" value="2.0000"/> <input type="text" value="2.0000"/>	<input type="text" value="5.0000"/>	<input type="text" value="2.0000"/>	<input type="text" value="3.0000"/> <input type="text" value="2.0486"/> <input type="text" value="7.0000"/>	<input type="text" value="3.0000"/>

delta time: Muffler's distortion %:

Calculate

Coords:	2.99996	3.99992	3.99992
Distance:	2.99882	Speed:	0.92241

```
exported.txt - Notepad
Файл Избранное Сервис Вид Справка
=====FILE_FOR_RECEIVED_MEASUREMENTS=====
MEASUREMENT NUMBER 1:
DISTANCE = 101.62
SPEED = 20.347
MEASUREMENT NUMBER 2:
DISTANCE = 219.214
SPEED = 20.347
MEASUREMENT NUMBER 3:
DISTANCE = 339.986
SPEED = 20.347
MEASUREMENT NUMBER 4:
DISTANCE = 461.448
SPEED = 20.347
MEASUREMENT NUMBER 5:
DISTANCE = 583.17
SPEED = 20.347
MEASUREMENT NUMBER 6:
DISTANCE = 705.015
SPEED = 20.347
MEASUREMENT NUMBER 7:
DISTANCE = 826.931
SPEED = 20.347
```



