1. What is your Use Model? Who is the user and what does this user want to accomplish using your device?

The use model will basically be the scientist use for the scientific research. They can use this project to research where does the source of the global circuit comes from.

2. How does your project solve an engineering problem? For the US? For the world? How do you define success for the project?

No body has taken the lightning and the charged storms consider at the same time. So, this project could

3. What are the societal and ethical impacts of the project?

This can help research on geo physics.

4. What microprocessors, microcontrollers, and/or FPGAs are used? What are the IDEs and programming languages needed? Explain your choices.

This project is mainly a software-based project I will probably use MATLAB or python to do some statistical analysis

5. Are prototyping software such as MATLAB or Python used? Why?

Probably both will be used but MATLAB preferred since the old code is in MATLAB

6. What materials are used to construct the project? How will you construct it? Do you need a 3-D printer?

NA

7. How is communication handled? What protocols are used (UART, I2C, SPI)? What throughput (characters or bytes per second) is required? Explain your choices.

NA this project doesn’t need throughput since it is not processing real time data

8. How much power is required? How will you regulate power? What power supply voltages are required?

NA

9. How is the project controlled and/or automated? Is RF communication used? If so, what protocol and why?

NA but the project is automated with scripting language

10. How is the project tested and validated? Will you use software such as Matlab to record and process test data? Explain.

This project will use MATLAB and python to analysis data

11. What is your bill of materials? Does it fit your project budget?

NA

12. What is the project timeline? How is work divided between team members?

The entire project has a large team, but this software side will be me mainly in charge. Also I will help on hardware problem if there is any.