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## CONCEPT OF UNDERSTANDING BLACK HOLE USING SATELLITE

**Abstract**

The satellite is being developed to have a greater understanding of Black hole and the type of communication that are captured inside black hole. The project is proposed to have three stages named as “Sleep stage”, “Active stage” and “Rest Stage”. During sleep stage the satellite will deploy a secondary communication satellite which will be tied using electrodynamic tether to the main satellite to be deployed inside the black-hole. Tether is being used because of the ability to generate power using magnetic field and as black hole has high magnetic field our satellite can use the power for processing and communication. The communication satellite will have a small thermal camera in satellite with an image processor for clicking and storing images from inside the black hole. This stage ends with the deployment of communication satellite. During the “Active stage” the communication satellite will be lowered in black hole using a pulley mechanism as pull might be strong for the main satellite we will be using thruster whenever necessary for retaining our position. The communication satellite will be lowered in periodic manner such as a cycle of 10 for every 1 minute. During this one minute the satellite will have three main tasks one is to send communication signal back to main satellite, second to acquire any captured signal if possible and to click thermal images of the black hole. The main satellite will be having a pulley mechanism to pull back tether attached to the satellite and out of black hole. As the satellite comes out of black hole it will communicate and transfer data back to main satellite, for every cycle. As the information is acquired we move into the next stage or Rest stage we will release the satellite inside the black hole and main satellite will be organized for a return mission. This mission can be useful in understanding the black hole at a larger extent and also can be useful in future endeavours.