

PHYS CS 15C Research Proposal

Remotely Operated Vehicle with Visualized Terrain

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April 4, 2019

1 Introduction

2 Significance

3 Objective

1. Study the differences and similarities of three icy satellites, and propose different modifications to be made for the current Europa model;
2. Extend the Europa model [?] to fit to Galileo PPR data and ALMA observations for Ganymede and Callisto;
3. Analyze the temperate maps with the developed models and potentially identify other similarly anomalous regions.

4 Methodology

5 Proposed Project Timeline

Research Timeline	
Week	Description
1	Order necessary parts
2	Assemble the conductive layer control pad, supply constant AC current through one pair of electrodes, and measure the voltage difference at different vertices
3-4	Supply current through all adjacent pairs of electrodes, and readout the voltage differences at all other vertices
5-6	Visualize the 2-D voltage current density when touching the control pad with tomography imaging
7	Output coordinate of touch on the control pad; assemble the self-balancing robot
8-9	Assemble the self-balancing robot and the bluetooth module
10	Move the robot with control robot

6 Conclusion

7 Acknowledgment

I would like to acknowledge Qicheng Zhang and my advisor at UCSB Dr. Tengiz Bibilashvli for their valuable feedback toward this research proposal.