Problem Chosen REPLACE ME WITH PROBELM

$\begin{array}{c} 2020 \\ \mathrm{MCM/ICM} \\ \mathrm{Summary~Sheet} \end{array}$

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Use this template to begin typing the first page (summary page) of your electronic report. This template uses a 12-point Times New Roman font. Submit your paper as an Adobe PDF electronic file (e.g. 1111111.pdf), typed in English, with a readable font of at least 12-point type.

Do not include the name of your school, advisor, or team members on this or any page.

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Kingdom Built on a Pile of Sand:Slow and Steady

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1 Introduction

1.1 Problem Background

Sunshine, clear blue sea and golden color sand always seem to leave people in a happy state of mind. And a beach is where these three are combined, drawing people all around towards it. Sand, the granular matter formed by constant brushing of flowing water, however, can react with water in a different way, despite the fact that people refer to it as non-stable or unreliable. On a beach, where the already formed sand and the rise and fall of sea wave lies together, a new buff can be added to our

- 1.2 Our Work
- 2 Assumptions & Nomenclature
- 2.1 Assumptions
- 2.2 Nomenclature
- 3 Modeling Under Waves and Tides

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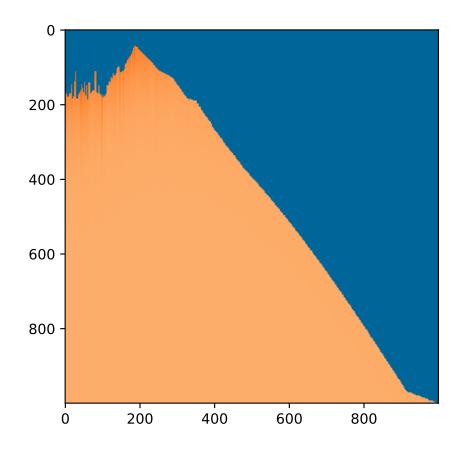


Figure 1: A Windows Terminal.

3.1 Shape of the Slope: Mohr-Coulomb Criterion

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3.2 Top View Shape

3.3 Calculating Results

3.4 Simulating Results

Random citation [1] embedded in text. This is some example text^1 . I'm referring to footnote 1.

¹Hello footnote

- 4 Modeling Under Rain
- 5 Determine the Best Sand-to-water Proportion
- 6 Other Ways to Make Our Sand Castle Last Longer
- 7 Sensitivity Analysis

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References

- [1] J. J. Lee and C. Rice, "Welcome to america? international student perceptions of discrimination," *Higher Education*, vol. 53, no. 3, pp. 381–409, 2007, identifier: 4508. DOI: 10.1007/s10734-005-4508-3.
- [2] S. R. Aragon and M. Rios Perez, "Increasing retention and success of students of color at research-extensive universities," *New Directions for Student Services*, vol. 2006, no. 114, pp. 81–91, 2006. DOI: 10.1002/ss.209.
- [3] S. S. Starobin, "International students in transition: Changes in access to u.s. higher education," *New Directions for Student Services*, vol. 2006, no. 114, pp. 63–71, 2006. DOI: 10.1002/ss.207.