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MASTER PROJECT REPORT
Simulation of thermal camera images from a spacecraft around asteroid for the HERA mission

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Abstract

Didymoon is an asteroid of the binary system Didymos. It is orbiting around a bigger asteroid called Didymain for convenience. In order to prepare the defense of the Earth in the case of a direct impact of an asteroid, the Hera mission will initiate in the years to follow an impact onto Didymoon. The NASA is in charge of the collision with the asteroid. The ESA will study the outcomes of the impact. The spacecraft Hera will be equiped of sensors such as cameras. Studying the evolution of the temperature on Dydimoon will help us to understand what happened to after the collision. This work fits into the scheme of the simulations of thermal camera images from the spacecraft around the asteroid. This paper shows a method using asteroid thermophysical model, 3D numerical solver, NASA/NAIF SPICE and shape models.

1 The Hera mission

This is the introduction. Hera we describe the Hera mission and presents the situation.

2 Current work

Here we present the work already done.

3 Objectives

Here are the objectives of the projet master. Next sections describe them.

4 Objectif 01

This is the first objectif.

5 Objectif 02

This is the second objectif.

6 Objectif 03

This is the third objectif.

7 Objectif 04

This is the fourth objectif.

8 Objectif 05

This is the fifth objectif.

9 Further works

Hera we talk about the further works.

References

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