

The Control of the CE-02 satellite flying to the Lagrange Point

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Abstract

The Control Strategy and process of the satellite of CE-02 flying to the Lagrange Point are introduced in this article, as well as the flight control and the payload experiment circling Lagrange Point are mentioned.

There are four targets which controlling CE-02 flying to Lagrange Point. Firstly, making controlling the satellite to going farther distance in space into realization; Secondly, validating the method and capability of remote surveying and controlling after the two remote space surveying stations, Kashi and Kiamusze, are set up; thirdly, putting up scientific research of electriferous particles around the earth nearly the Lagrange Point; fourthly, observing the possible erupting of X and γ radial.

the flight control flying to Lagrange Point was divided into three phases: Moon escape, transferring flight and circling Lagrange Point. After 4 orbit controlling to CE-02, the satellite entered into the Lissajous orbit aparting from the earth about 1.7 million kilometres on September 1st 2011.

up to now, one orbit controlling in all was carrying through after the CE-02 satellite circling Lagrange Point in order to keep the satellite circling Lagrange Point. In this period, space circumstance detector collect large numbers of space circumstance dates, and the correlative scientific research have developing step by step.

1. Introduction

There are six sections in this paper. As follow:

1.1 foreword

1.2 introduction of L2

1.3 Survey and Control conditions

1.4 Process of CE-02 flying to L2

1.5 Circling L2

1.6 Summary

2. An additional section

3. Figures

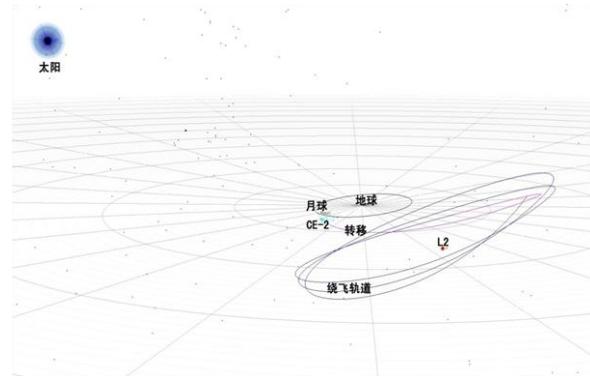


Figure 1: sketch map of CE-02 Flying to L2.

4. Tables

Table 1: analysis of light conditons

| Begin Time | Finish Time | Time Length (h) |
|-------------------|-------------------|-------------------------|
| 2011-6-8 14:40:33 | 2011-6-8 15:26:47 | 0.771 |
| 2011-6-8 15:53:40 | | The first acceleration |
| 2011-6-8 18:37:42 | 2011-6-8 19:53:27 | 1.262 |
| 2011-6-8 23:37:39 | 2011-6-9 00:53:24 | 1.262 |
| 2011-6-9 04:37:35 | 2011-6-9 05:53:20 | 1.262 |
| 2011-6-9 09:37:32 | 2011-6-9 10:53:17 | 1.262 |
| 2011-6-9 14:37:29 | 2011-6-9 15:53:14 | 1.262 |
| 2011-6-9 16:52:49 | | The Second acceleration |

5. Equations

6. Summary and Conclusions

Acknowledgements

References

[1] Wenyan, Zhou.: Report of orbit design on CE-02 extending mission, 2011.

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[3] Beijing Aerospace Control Center: The analysis of CE-02 satellite longtime management, 2011.