

滞在型研究員報告書
Activity Report for the NAOJ Visiting Fellows Program

所 属 (Institution)	Bandung Institute of Technology, Bandung, Indonesia
氏 名 (Name)	Budi Dermawan
研究課題名 (Research subject)	Planetary Science and Dynamics: Asteroid Lightcurves
滞在期間 (Period of stay)	2015 年 05 月 14 日 ～ 2015 年 06 月 02 日 YYYY MM DD YYYY MM DD
受入責任者氏名 (NAOJ host researcher)	Prof. Junichi Watanabe

1. 滞在型研究員として国立天文台滞在中に行った活動について簡単にお書きください。
(Summarize your activities during the stay using the NAOJ Visiting Fellows Program.)

I examined and analyzed lightcurve data of (small) main-belt asteroids observed by the Suprime Cam of Subaru telescope. The Suprime Cam has 10 CCD chips. About 110 asteroid lightcurves are provided. Trajectories of some of the asteroids pass through more than one CCD chip. Prior to this work, I had developed two separated numerical codes for obtaining a rotational period derived from an asteroid lightcurve. The codes serve to justify the period. During the stay, I developed a new code by combining and manipulating both the previous codes in order to directly reveal the period. The new code can also be used for other purposes relating to the search for rotational period from asteroid lightcurve data.

I also gave a talk in Seminar held on May 25th. My talk was about the restricted three-body problem in planet-satellite systems. I also had some discussions with colleagues who have background in celestial mechanics.

2. 今回滞在型研究員として得られた成果について簡単にお書きください。
(Summarize your research products from the stay.)

Major development of the new numerical code has been done. It has also been tested and worked properly for the data of Suprime Cam. However, there are still some minor bugs and I am working in fixing them. I will also test the code for new asteroid lightcurve data, which will be available in near future. The code is set to be free, especially for people who work in determining rotational period from asteroid lightcurve data.

I received many questions and objections in my talk. The discussion emerged in the Seminar was very helpful and has given me wide insights about the topic.

3. この制度について何か御意見がありましたら、お書きください。

(Please provide any comments about this program.)

The program is very helpful. I can concentrate with my research, away from regular activities. My duration of stay was indeed limited by duties in my home institute. This institute (NAOJ) has many researchers and projects, so that I can contact them directly for some purposes. Many discussions can also be done whenever I need. This is in contrast with the situation I meet in my home institute, which has small number of astronomers who have the same interest. I got many benefits in working experiences and could contribute to research in NAOJ, especially in analyzing data taken by Subaru telescope.

The cosmos lodge is very convenience. Many facilities inside can be used and helpful for living comfortably in Mitaka. The administrative staffs of NAOJ are also supportive. I would like to deeply thank NAOJ for this opportunity.

様式 2 (Form 2)

注)

国立天文台滞在型研究員の方には、期間中の成果について報告をしていただくことになっております。このフォームに記入のうえ、滞在期間終了後 2 週間以内に受入責任者を通じて国立天文台総務課研究支援係へご提出ください。枠の大きさは随時変更して構いません。

なお、この報告書は原則として研究交流委員会のウェブページに公開します。研究成果の論文掲載前でも公開することがありますので、研究内容の詳細について記入していただく必要はありません。この研究の成果を学術誌等で発表するときは、本制度がその成果に寄与した旨を謝辞に記載してください。

Note:

The NAOJ Visiting Fellows need to submit a report about their stay using this program. Please fill in this form, and then submit it to the Research Support Section, National Astronomical Observatory of Japan (NAOJ) through the NAOJ host researcher within two weeks after finishing your stay at NAOJ. The space of each section can be altered to suit your needs.

This report will be posted on the website of the Research Coordination Committee. You don't have to describe the details of your research in this program, because in some cases the report may be posted before the publication of papers describing the research products. If you publish your research products from this program in academic journals, etc., please mention that this program contributed to the results in the acknowledgements section.