滞在型研究員報告書（様式２）

（2008 年 9 月策定）

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。このフォームに記していただき期間終了 2 週間以内に国立天文台研究支援係にご提出ください。なおこの報告書は研究成果の論文掲載前でも研究交流委員会の web 上に公開いたしますので、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その旨を謝辞に記載してください。

所属　SYRTE/Observatoire de Paris

氏名　Jean SOUCHAY

受け入れ　　氏名：　吉田二美

滞在期間　　2010 年 6 月 27 日～　　2010 年 7 月 25 日

I. 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。

First of all I had several discussions with Dr. Fumi Yoshida about her observations with the SUBARU Suprime-Cam concerning the study of asteroid populations I asked her a lot of questions about her recent papers published on the subject. The discussions were extremely fruitful for me in order to understand the methodology used during these observations and also the possibilities to use the very huge dataset of ecliptic frames 8more than 2000 ones at all) already made with SUBARU and CFHT in order to achieve a fruitful collaboration between Fumi Yoshida and the team of astrometry whose I have the responsibility at Paris Observatory. In particular there is a very interesting topic consisting in combining CFHT Megacam CCD mosaic frames with SUBARU Subprime camera ones along the ecliptic. At last my stay gave me the occasions to meet several colleagues I know from a very long time ago (I was post-doc at Mitaka in 1988-1991)

II. 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。

During my one month stay at NAOJ I studied in details the huge SUBARU Suprime-Cam CCD frames along the ecliptic which were not fully used for astrometric and photometric purposes. After viewing the characteristics of the frames (time exposure, location in the sky, seeing, frequency, filter etc..) I was able to set up with Dr. Yoshida several possibilities of research topics in the near future y which are as follows：

* The measurements of asteroid light curves obtained from one night full sessions of CCD frames taken at the same location of the sky, both with mosaic CCD frames of SUBARU (Suprime-Cam) or CFHT (MegaCam).

* The study of asteroids populations by detection of their trails in the CFHT very Wide Ecliptic Survey (more than 1300 frames) by using the same technique as Dr. Yoshida used (Yoshida et al.,2003) with SUBARU. Results should be compared with those of this last paper.
* The discovery of new TNO's by comparison of frames (both SUBARU or CFHT) of the same ecliptic region taken at several hours (days) intervals.
* The study of quasars multi bandwidths flux variations using SUBARU frames。This study has been done recently with success by my team using CFHT frames (Taris, Souchay et al.). The results are important for cosmological purposes. Moreover new quasars could be detected from their variability and color index.

This one month stay at Mitaka National Observatory was extremely fruitful for me：it allowed me both to understand the observational and theoretical methodology used by Dr. Yoshida at Subaru Telescope for her successful research results and also to establish a nice collaboration in the future months with certainly the opportunity to achieve one of the four goals enumerated above, probably leading to a collaboration paper in a referee review.

III. この制度についてなにか御意見がありましたら、なんでも記入ください。