Report on 32nd ISTS & 9th NSAT Participation

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32nd ISTS and 9th NSAT symposium was a fulfilling experience not only for its extensive technical contents, but also for the opportunity to observe Japan's space capabilities first hand. Firstly, the keynote speeches were inspiring. Most memorable ones were the presentation regarding JAXA's activities in Moon exploration and the speech which urged the listeners to regards space as a natural resource (the microgravity, orbits themselves as well as the available frequency slots). I found the later one especially inspiring.

Due to the extensive coverage of the symposium, I had the chance to attend only a handful of presentations. My first impression was the astonishment at the number of interplanetary missions being undertaken. Interplanetary missions (including the Moon) of varying sizes; from the multi-national HERACLES to the Cubesat sized spacecraft/lander OMOTENASHI, were introduced. Yet, their common denominator was the high level of ingenuity by their designers, regardless of the mission size. From an aerospace engineer's standpoint, the increasing quantity (and quality) of interplanetary missions with respect to the previous decade is encouraging and inspiring.

Being a researcher working principally on the subject of guidance, navigation and control (GNC); I primarily participated in the relevant sessions (hence experienced only a sample of the ISTS). As mentioned earlier, it was observed that main focus was in the field of interplanetary missions. One trending subject in GNC research was pinpoint landing on various solar system bodies (this requirement was also emphasized by planetary scientists participating in the conference). Specifically, sensor fusion of various equipment such as RADAR, LIDAR and visual guidance were explored in more than one presentation. This would likely be an active research field in the future, given the push for landing in the polar regions of the Moon. Generally, presentations providing actual results from the recent missions, such as Hayabusa-2 were the most enjoyable.

Presentation time was somewhat limited, but that may also be a subjective evaluation on my behalf. Additionally, I believe there should be a regulation regarding image recording during the presentations. Of course, some of the listeners would like to record items of interest for future reference, yet some of their cameras made too much noise, disturbing other listeners and presenters alike.

Exhibition was informative regarding introducing the current space capabilities of the Japanese space industry. On the down side, English language skills of some of the stand personnel were limited and some pamphlets were completely in Japanese.

Apart from the technical content; the social events and excursions were enjoyable and well planned. They offered a nice mix of entertainment and informative introduction to the Japanese culture. Travel planning prior to the event conducted by the third party traveling agency was adequate and responsive as well as accommodating to the requests.

Administrative support was adequate and timely and the registration process was smooth and informative. Logistics of the events, including catering provisions, were sufficient.

To sum up, it was an enjoyable and enlightening experience to present at and participate in the ISTS. I had the chance to present my research to an active and engaging audience, to observe the recent developments in space technology and to gain deeper appreciation of Japan’s space capabilities.