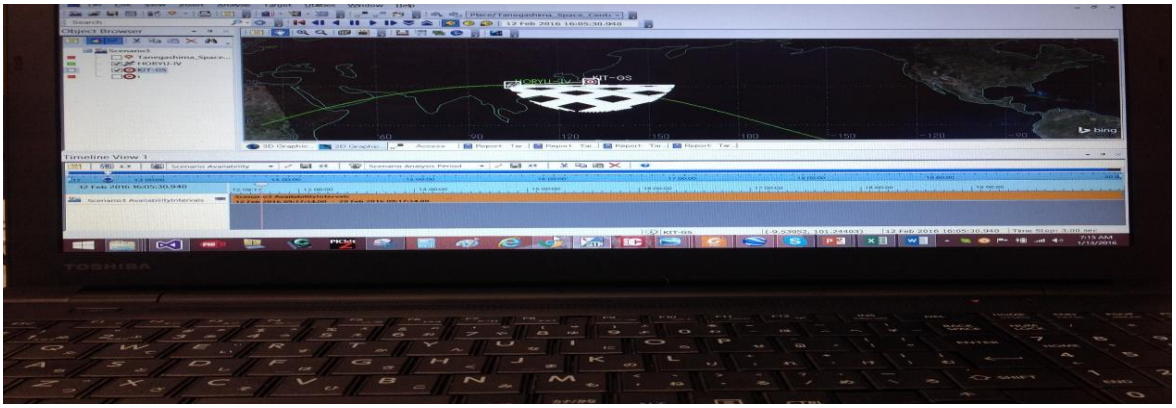
HORYU-IV Passes Prediction



1st Pass Prediction

HORYU-IV 1st pass prediction was performed using STK software version 10.1. Using orbital elements at separation, HORYU-IV location at separation could be computed as shown in Figure 1. Assuming launch on February 12, 2016, at 17:45 (JST), HORYU-IV separation will take place at coordinates of latitude -6.08094N and longitude -143.55866E.

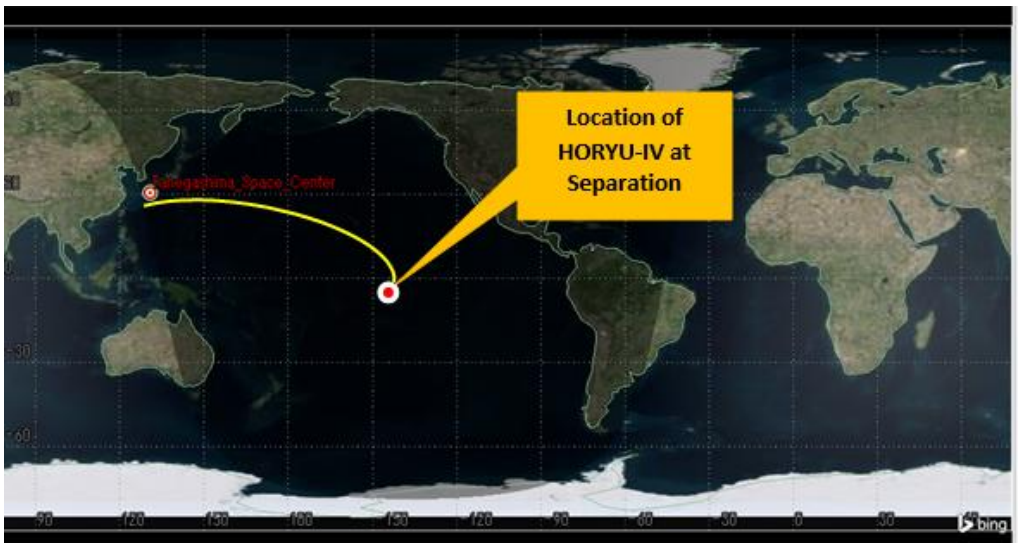


Figure 1 Location of HORYU-IV at separation (Latitude -6.08094N, Longitude -143.55866E)

Figure 2 shows the location of Kyushu Institute of Technology ground station (KIT-GS, latitude: 33°53’28’’N and longitude: 130°50’26’’E) relatively to HORYU-IV location at separation. Assuming the launch occurs at 17:45 (JST), HORYU-IV will start orbiting at 18:17:38 (JST) / 9:17:38 (UTC), and from STK analysis results, it will take 1 hour and 10 minutes for the satellite to make its first contact with KIT-GS.

Figure 2 HORYU-IV location at separation (orbit altitude: 573km, inclination: 31deg)

The KIT-GS will establish contact with HORYU-IV during 13 minutes from 19:27:50 (JST) / 10:27:50 (UTC) to 19:40:50 (JST) / 10:40:50 (UTC). Figure 3 shows STK simulation of HORYU-IV while orbiting over KIT-GS.

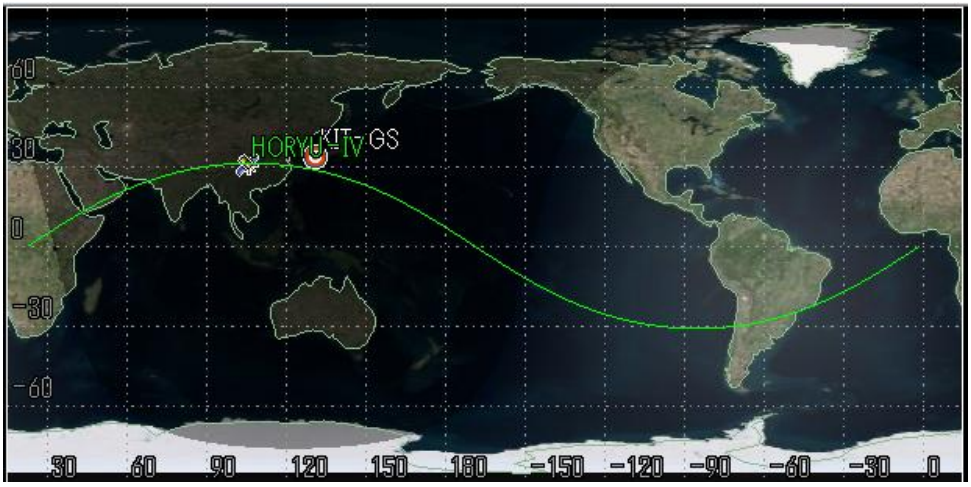


Figure 3 HORYU-IV first contact with KIT-GS

See attached below one week HORYU-IV pass prediction analysis that will be used to monitor and perform the operation of HORYU-IV. More pass time will be announced later as the satellite TLE is officially published by NORAD.

Note: times are estimated based on the launch occurring at 17:45 (JST), but on February 12th, 2016, the launch time might be delayed up to 18:30 (JST) and aforementioned times should be adjusted accordingly. For real time update on the launch day, follow us on Facebook!

⇨ https://www.facebook.com/pages/Horyu-4-Arc-Event-Generator-and-Investigation-Satellite/780188535364868
