ILRS SLR Mission Support Request Form

GENERAL INFORMATION

Satellite Name:	QZS-1	Satellite Host Name:	JAXA
Primary Technical Contact:	Michiaki Horii	Alternate Technical Contact	Shinichi Nakamura
Address	Consolidated Space Tracking and Data Acquisition Department 2-1-1 Sengen,Tsukuba, Ibaraki,Japan	Address	Consolidated Space Tracking and Data Acquisition Department 2-1-1 Sengen,Tsukuba, Ibaraki,Japan
Phone No.	+81 29 868 2610	Phone No.	+81 29 868 2625
FAX No.	+81 29 868 2990	FAX No.	+81 29 868 2990
Web Address	http://god.tksc.jaxa.jp/	Web Address	http://god.tksc.jaxa.jp/
Primary Science Contact	Mikio Sawabe	Alternate Science Contact	Motohisa Kishimoto
Address	QZS Project 2-1-1 Sengen,Tsukuba, Ibaraki,Japan	Address	QZS Project 2-1-1 Sengen,Tsukuba, Ibaraki,Japan
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MISSION SPECIFICS

Scientific or Engineering Objectives of Mission:	Quasi-Zenith Satellite System (QZSS) is a regional satellite navigation system which provides fully compatible and interoperable signals with current and future GPS signals and Wide Area DGPS correction message to users in not only Japanese surrounding area but also East Asia and Oceania region. QZSS will transmit navigation signals, which have same center frequency, spectrum, bandwidth, PRN code family and message structure as civil signals of current and modernized future GPS on L1, L2 and L5 band. QZSS is designed to that at least one QZS out of three satellites exists near zenith (more than 60 degrees) over Japan. Note : QZS-1 is purely engineering satellite, i.e. Not commerce satellite. Note2: QZS system consists of 3 satellites series, i.e. QZS-1,2, and 3. Now, we submit requirement for only QZS-1.
Satellite Laser Ranging (SLR) Role of Mission:	Precise orbit determination for QZS. Note: JAXA will decide orbit for QZS precisely using SLR data and navigation data which received at satellite monitor stations (about 10 stations). As well known, it is quite important for navigation satellite to decide orbit and satellite clock precisely. SLR data helps QZS mission through precise orbit determination.
Anticipated Launch Date:	late 2009 (Objective)
Expected Mission Duration:	12 years

ANTICIPATED ORBITAL PARAMETERS

Altitude:	32000km - 40000 km
Inclination:	45 deg
Eccentricity:	0.099

TRACKING REQUIREMENTS

Tracking Schedule:	We hope 2 stages tracking; 1st stage Purpose : confirmation of precise orbit determination, estimation of bias for each monitor stations, QZS checkout Priority : High such as GIOVE-A campaign Frequency : every 6 months 2nd stage: Purpose : increasing orbit determination accuracy of ordinary operation Priority : low such as GPS35,36, Glonass, GIOVE-A Frequency : all day Tracking information will be notified to all SLR stations by web and/or SLR-mail. Tracking prediction file (CPF) will be distributed by CDDIS server.
Spatial Coverage:	Around Western Pacific Ocean
Temporal Coverage:	All times
Data Accuracy:	Millimeter to Centimeter ranging accuracy

OPERATIONS REQUIREMENTS

Mission Coordinator (ILRS, Subnetwork, etc.):	ILRS, Western Pacific Ocean Network
Priority of SLR for POD:	Second
Source of Acquisition Data:	JAXA
Other Sources of POD (GPS, PRARE, Doppler, etc.)	QZS-1 L-band NAV Signals which received about 10 ground satellite monitor stations
Primary Analysis Center	JAXA
Normal Point Time Span (sec)	300 seconds
Subnetworks/Stations Requested to Track	Global SLR systems, but stations must be kept tracking role
Data Delivery Time Requirements	Sub-Daily to CDDIS and/or EDC -Nominal Operation

RETROREFLECTOR ARRAY INFORMATION

Description of Array & Location	The array consists of (TBD) corner cubes, each of which is TBD cm diameter. The array is TBD cm in length, TBD cm in width and TBD cm in height.
Technical Contact for Array Correction/Center of Mass	Shinichi NAKAMURA
Email and/or Phone Number	nakamura.shinichi@jaxa.jp +81 29 868 2625
Other Comments:	More detailed information are shown in the QZS SLR Tracking Standards. This document will be distributed to registered station 1 year before QZS launch.