

# ILRS SLR MISSION SUPPORT REQUEST FORM

## Cryosat-1

### GENERAL INFORMATION

Satellite Name: Cryosat-1  
Satellite Host Organization: ESA  
Primary Technical Contact: C.R. Francis  
Alternate Technical Contact: G. Rauer  
Technical Contact Mailing Address: ESA/ESTEC, Noordwijk, NL  
Technical Contact E-mail: francis@jw.estec.esa.nl  
Technical Contact Web Address: <http://www.esa.int/export.esaLP/cryosat.html>

Primary Science Contact: D.J. Wingham  
Alternate Science Contact: R. Scharroo  
Science Contact Mailing Address: UCL, London, UK  
Science Contact E-mail: djw@cpom.ucl.ac.uk

### MISSION SPECIFICS:

Scientific or Engineering Objectives of Mission: CryoSat is intended to measure the secular trend in ice thickness for both the floating sea ice and the ice-caps in both the northern and southern hemisphere. To do this it uses an advanced radar altimeter combined with precise orbit determination.

Satellite Laser Ranging (SLR) Role of Mission: As the mission is intended to measure small secular change in a measure of distance it is necessary to use laser ranging for (1) calibration of the altimeter and (2) support to the POD. The latter will primarily be performed with DORIS, but the SLR measurements will provide an essential independent tracking data type.

Launch Date: April-May 2004

Mission Duration: 3.5 years

**ANTICIPATED ORBITAL PARAMETERS:**

Altitude: 720 km  
Inclination: 92 degrees  
Eccentricity: 0.0

**TRACKING REQUIREMENTS:**

Tracking Schedule: Commissioning+Routine Phase  
Spatial Coverage: Mediterranean for Comm. Global otherwise  
Temporal Coverage:  
Data Accuracy: Required POD: << 1 cm DRIFT

**OPERATIONS REQUIREMENTS:**

Mission Coordinator (ILRS, Subnetwork, etc.): ILRS  
Priority of SLR for POD: supports DORIS  
Other Sources of POD (GPS, PRARE, Doppler, etc.): DORIS  
Primary Analysis Center: SSALTO  
Normal Point Time Span (sec): 10 or 15 seconds  
Subnetworks/Stations Requested to Track:  
Data Delivery Time Requirements: not real-time

**RETROREFLECTOR ARRAY INFORMATION:**

Description of Array and Location: 7 cubes, based on Meteor array  
Technical Contact for Array Correction: C.R. Francis  
Array contact E-mail: francis@jw.estec.esa.nl

Other Comments: Contact C R Francis if more information is required