

## CAPABILITIES

### Specialty Centers

#### Center for Orbital and Reentry Debris Studies

#### Space Debris Basics

#### Reentry Breakup and FAQs

#### Reentry Data

[Annual Reentry Data](#)

[Large Object Reentries](#)

[Recovered Debris](#)

#### Reentry Predictions

[Upcoming Reentries](#)

[Past Reentries](#)

#### Space Operations Digest

#### The Leonids

[Leonid FAQs](#)

[Learning from the Leonids](#)

[1998-2002 Leonids](#)

#### Related Links

#### Contact Us

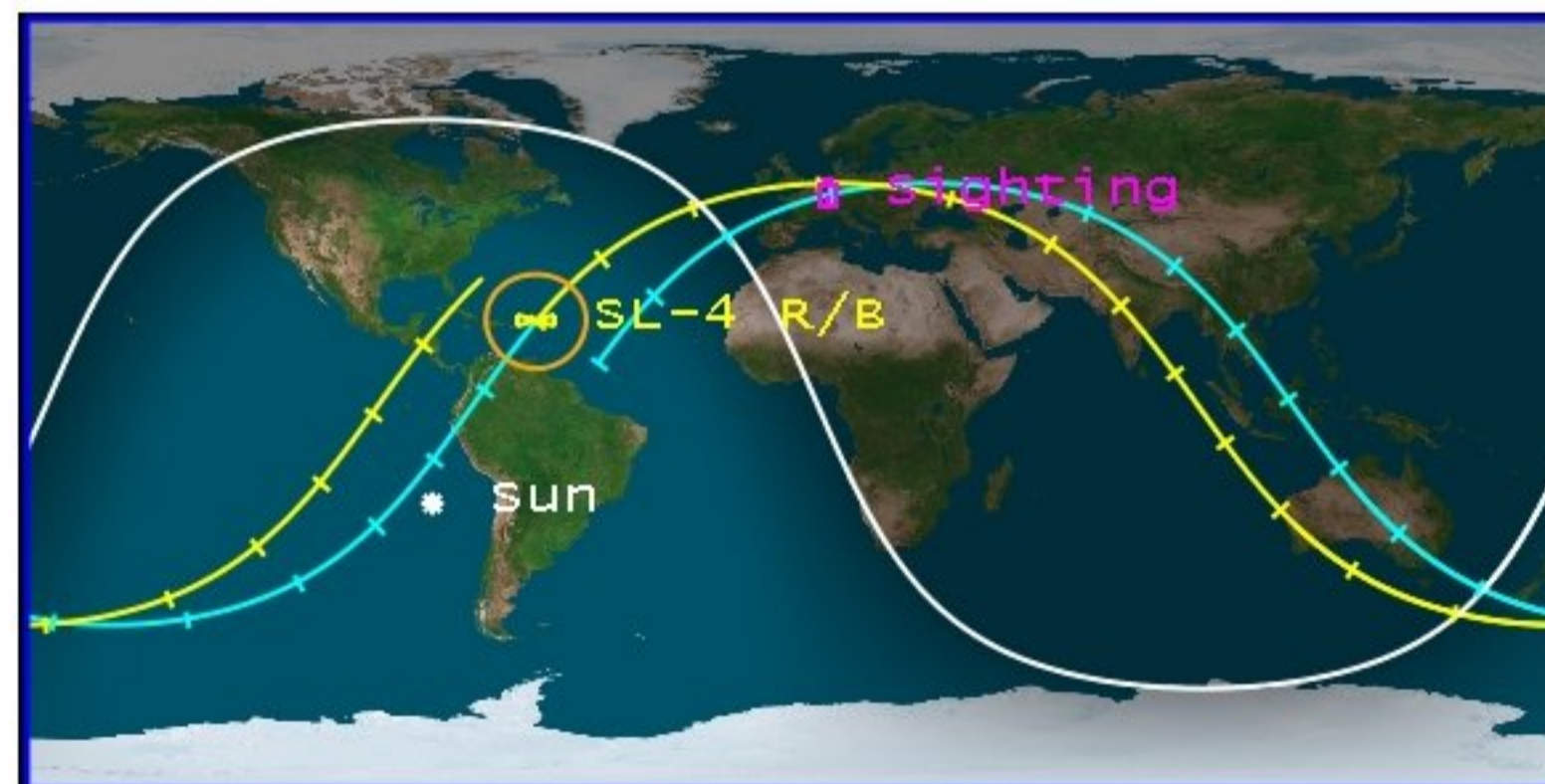
## Center for Orbital and Reentry Debris Studies

### Object Description:

Type: Soyuz-FG  
 Intl Designation: [2011 078B](#)  
 Launched: 21 DEC 2011 @ 13:16 UTC  
 Site: [Baikonur Cosmodrome](#) LC1  
 Mission: ISS Crew TMA-03M

### Reentry Prediction:

[Predicted Reentry Time:](#) 24 DEC 2011 @ 17:41 UTC  $\pm$  90 minutes  
[Prediction Epoch:](#) 24 DEC 2011 @ 11:46:04.398 UTC  
[Observed Reentry Time:](#) 24 DEC 2011 @ 16:26 UTC  
[Prediction Ground Track:](#)



### Legend

Yellow Icon - location of object at predicted reentry time  
 Orange Line - area of visibility at the predicted reentry time for a ground observer  
 Blue Line - ground track uncertainty prior to predicted reentry time (ticks at 5-minute intervals)  
 Yellow Line - ground track uncertainty after predicted reentry time (ticks at 5-minute intervals)  
 White Line - day/night divider at predicted reentry time (Sun location shown by White Icon)  
 Pink Icon - vicinity of eyewitness sighting  
 Note: Possible reentry locations lie anywhere along the blue and yellow ground track.

NOTICE: The materials about Upcoming Reentries are for informational purposes only and should not be used as a substitute for specific technical advice or opinions related to your particular facts and circumstances.