



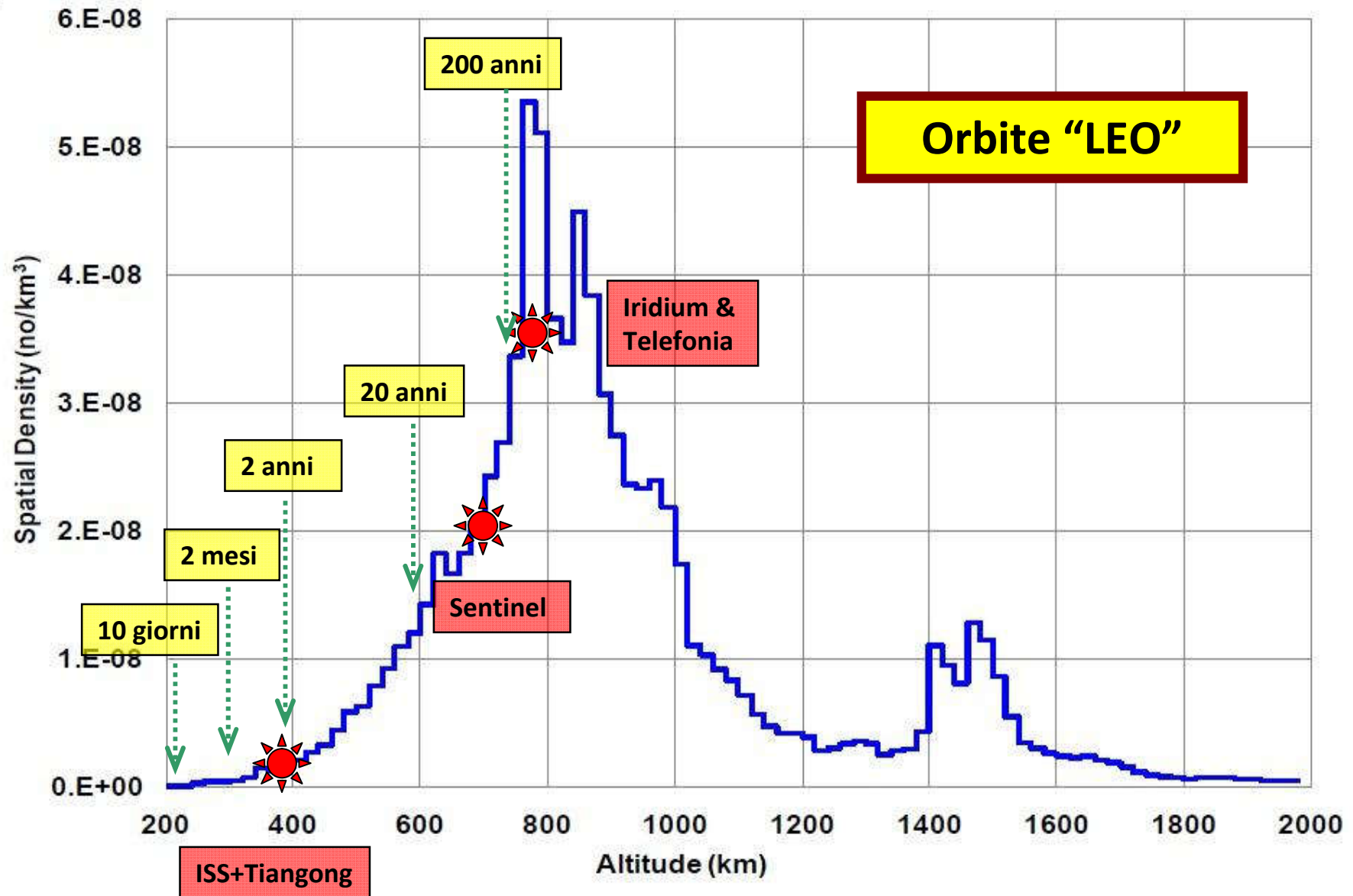
Space Surveillance and Tracking (SST) con camere All-Sky

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I tempi di vita in orbita



Rientri incontrollati osservati visualmente

Anno 2016 (compilato da Ted Molczan)

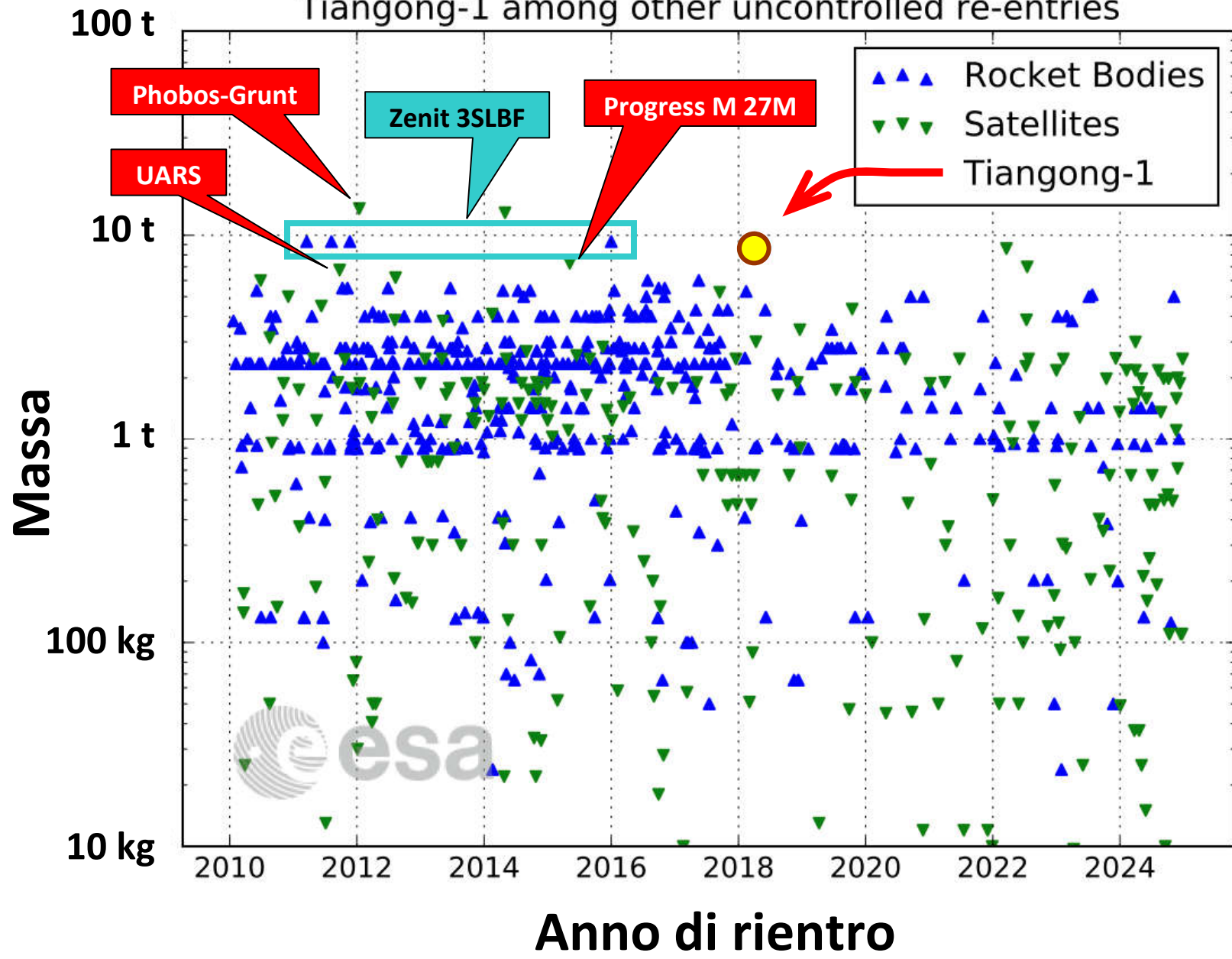
<u>DATE</u>	<u>COSPAR</u>	<u>Object</u>	<u>Mass(kg)</u>	<u>Sighting Location(s)</u>
Jan 01	2015-074C	Russia Zenit-2SB stage 2	8900	Thailand, Vietnam (debris found)
Jan 03	1986-052D	Russia Cosmos 1763 deb	~100	Belarus, Russia, Ukraine: recorded by cameras of Meteors
Jan 15	2015-059B	China		
Jan 30	2015-046B	China		
Mar 10	2000-050A	China Zi Yuan 2-1	1200	Bolivia: La Paz
Jul 19	2016-045B	Russia Progress MS-03	2410	New Zealand
Jul 28	2016-042E	China CZ-7 Stage 2	?	California, Nevada, Arizona, Colorado
Oct 02	1998-067H	USA Flock 2b-2	4.5	Southern England, Northern France

8 rapporti di avvistamento

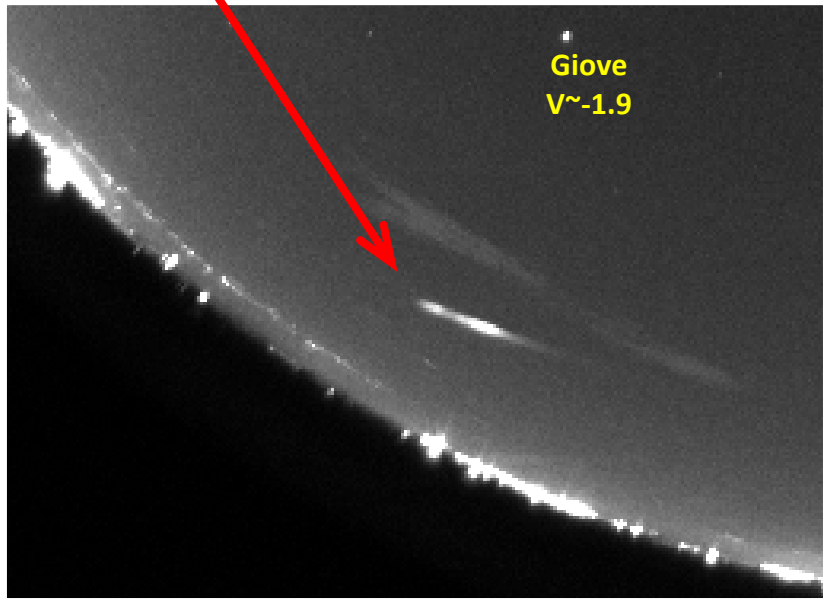
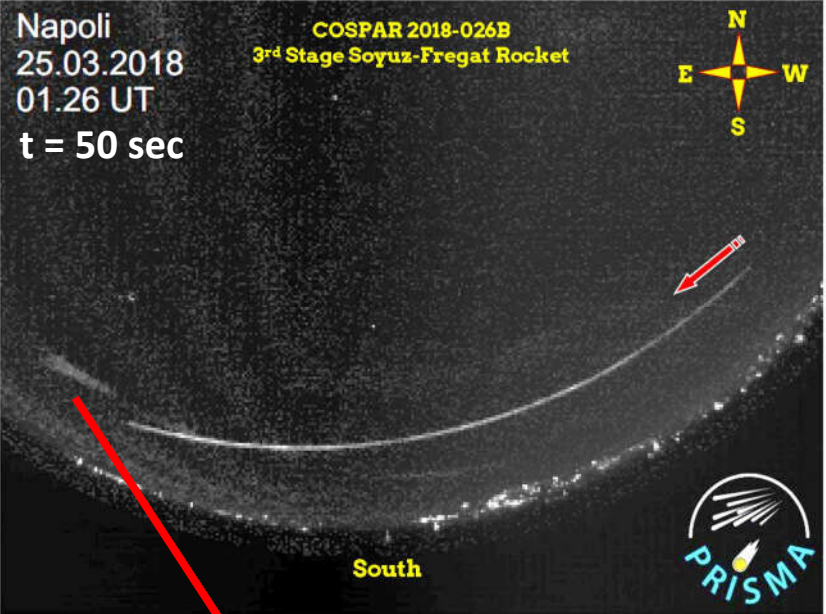
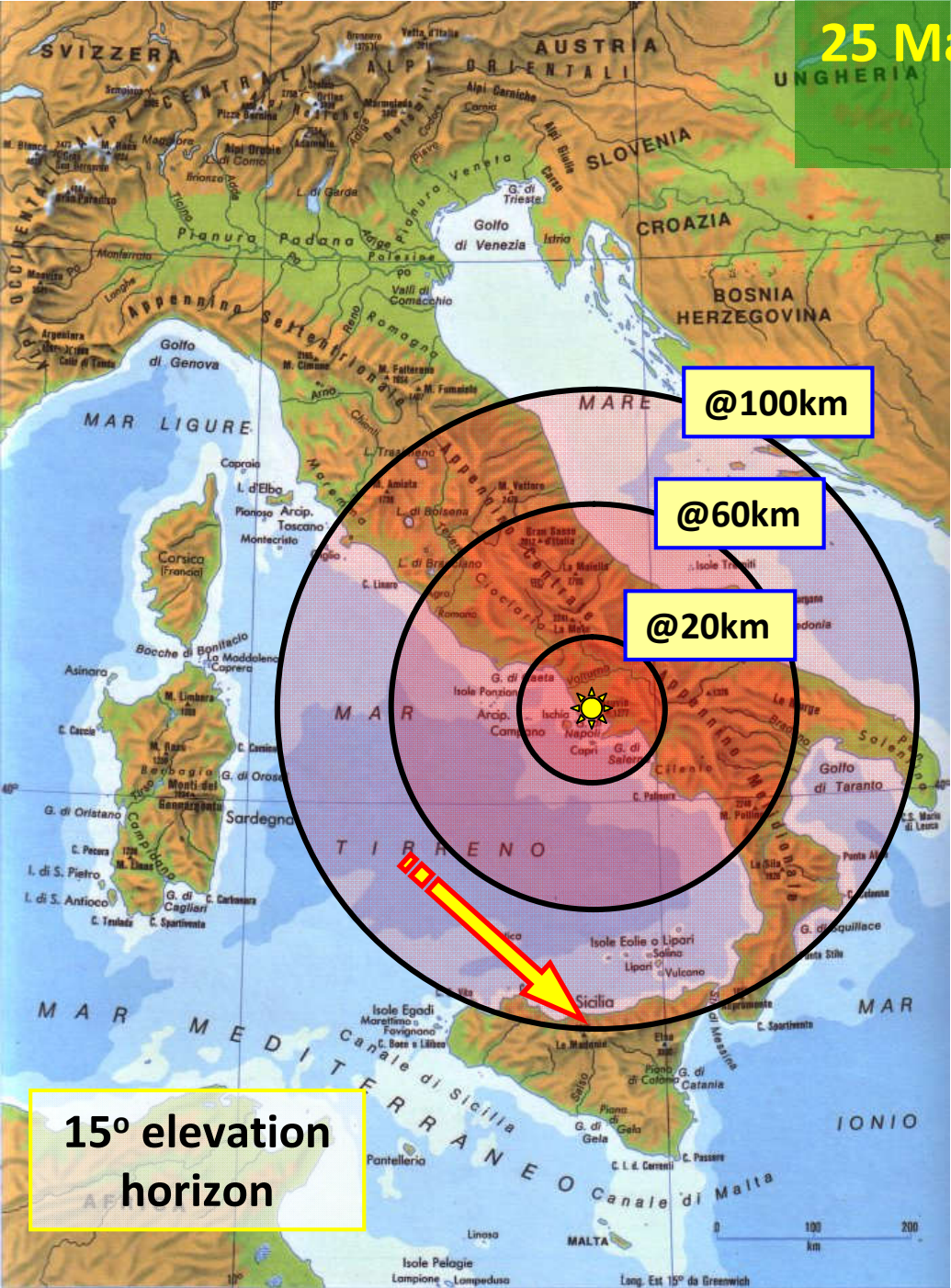


41 rientri aspettati nel SOLO mese di Settembre 2016
(fonte NORAD/Celestrack)

Tiangong-1 among other uncontrolled re-entries



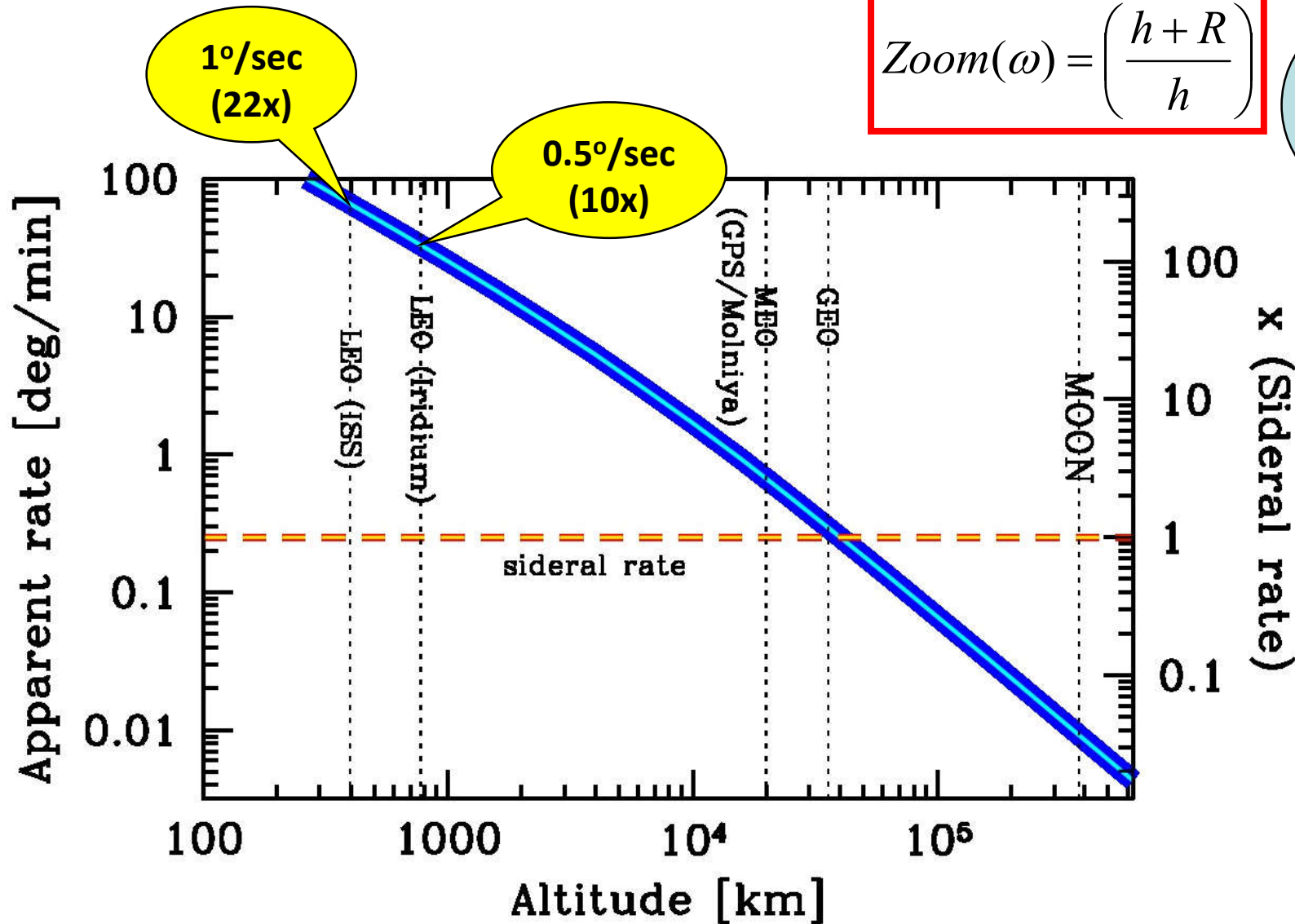
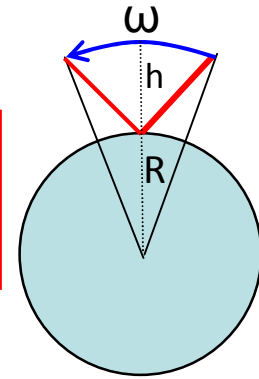
25 Marzo 2018: Rientro del 3° stadio del Soyuz-Fregat (2018-026B)



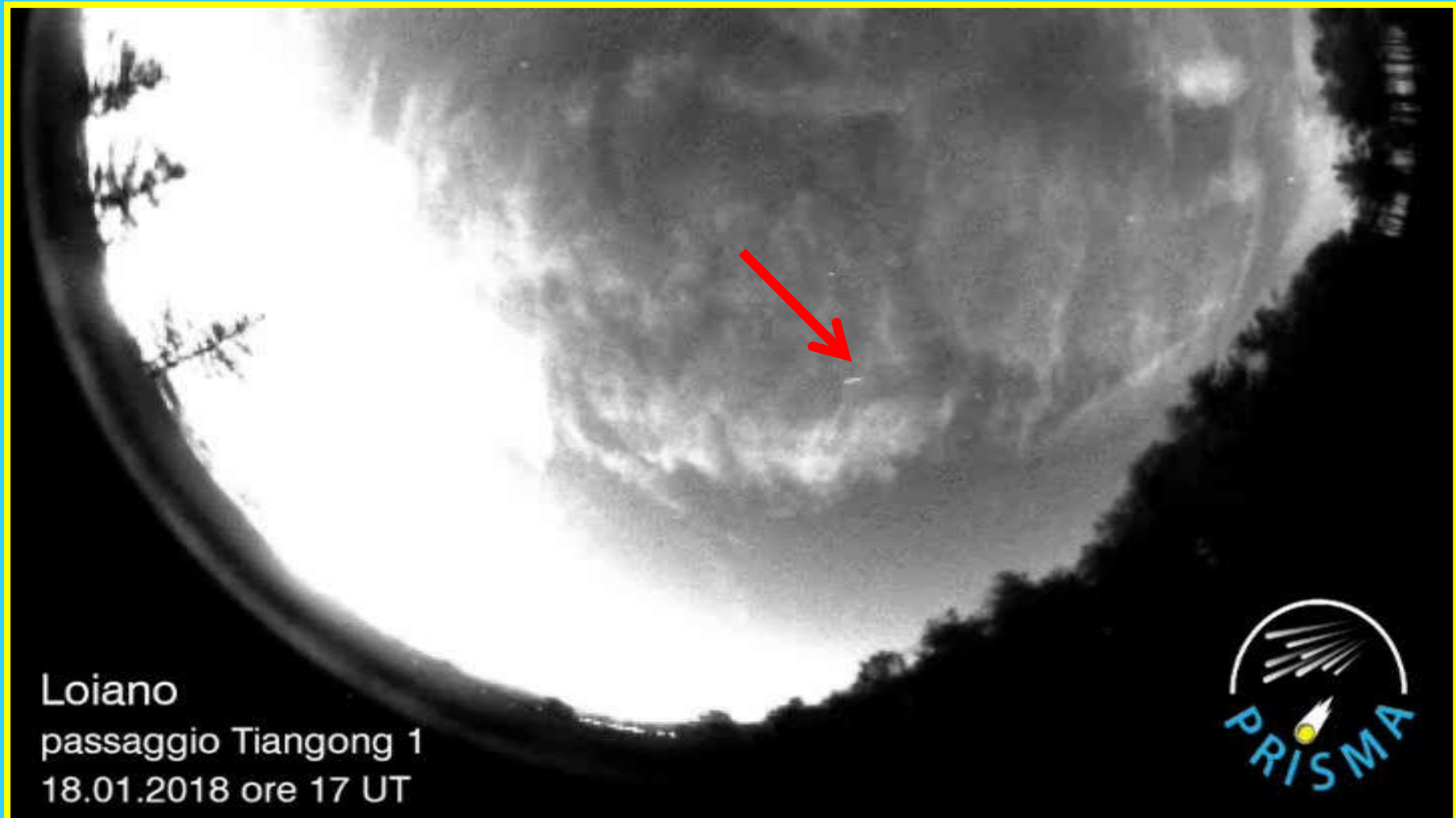
“To stare or to track?”

(this is the problem...)

$$Zoom(\omega) = \left(\frac{h + R}{h} \right)$$

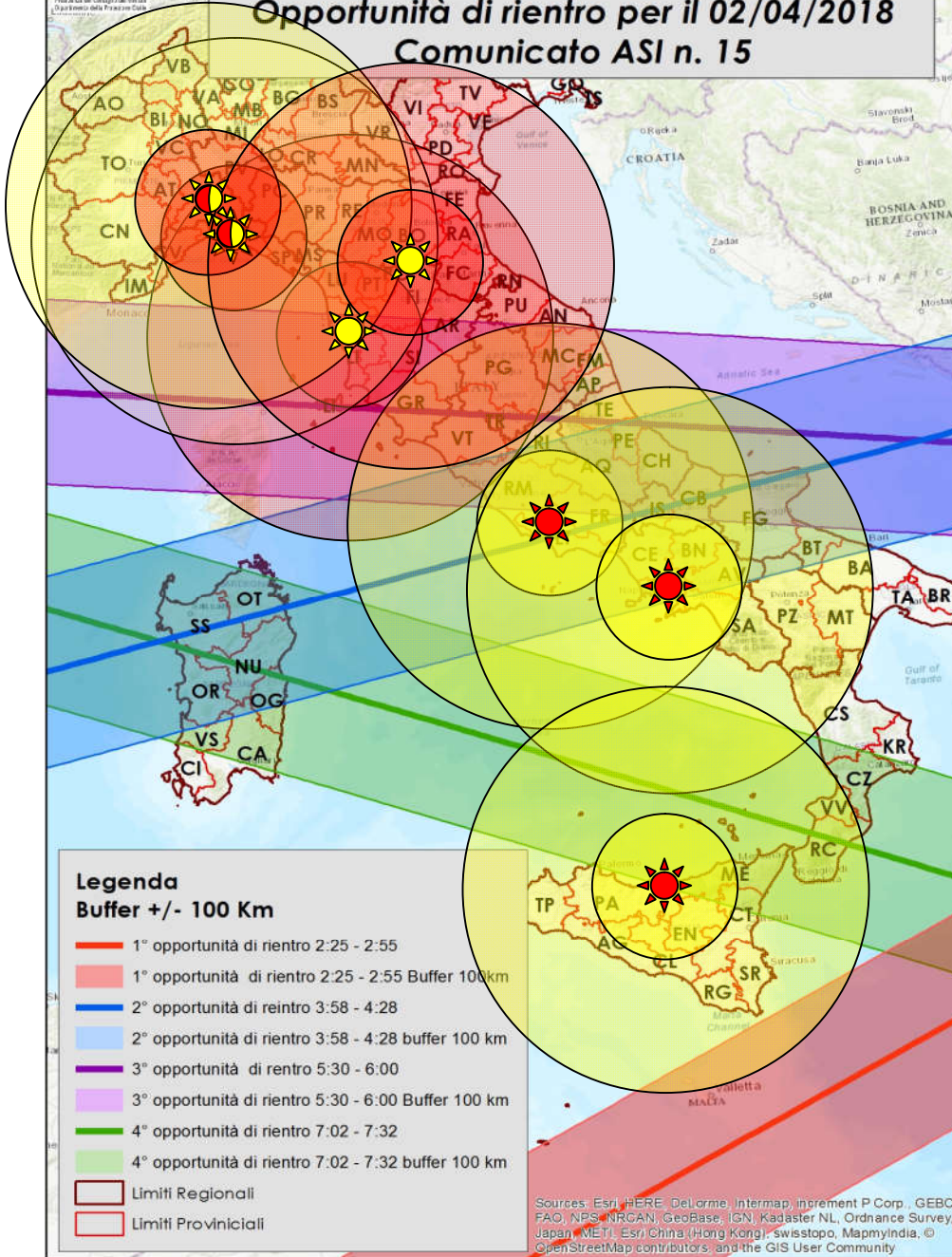


18 Gennaio 2018: La Tiangong e' rilevata con la camera fish-eye della rete PRISMA a Loiano (Bo)

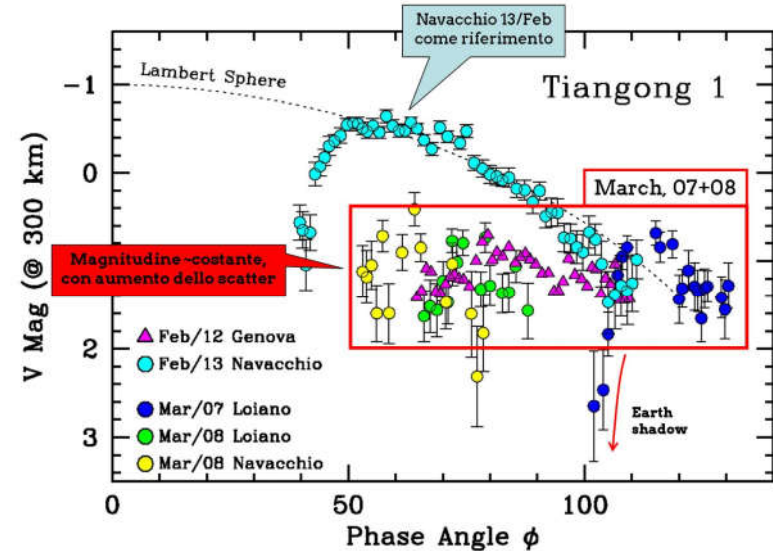
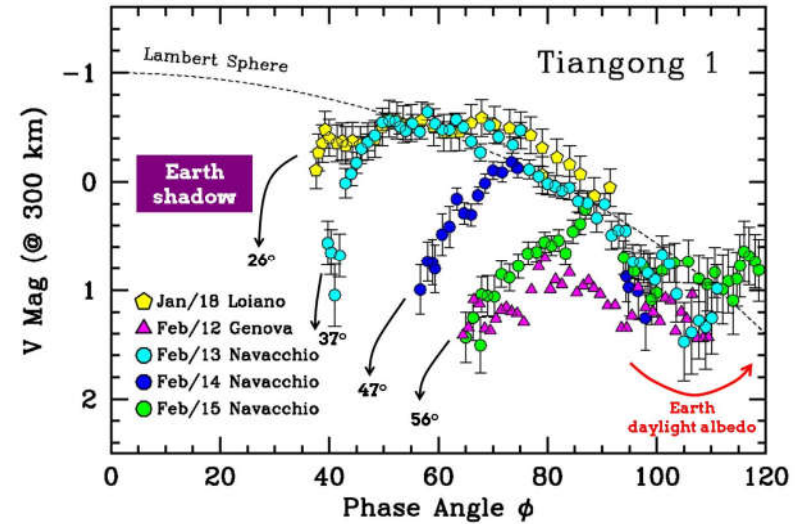


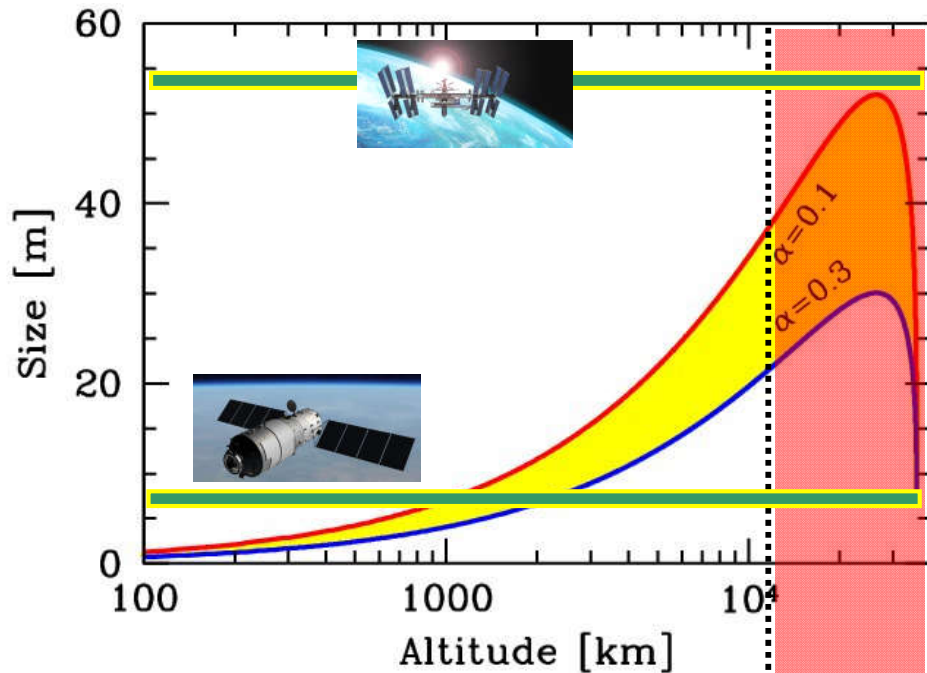


Rientro in atmosfera di Tiangong 1 Opportunità di rientro per il 02/04/2018 Comunicato ASI n. 15



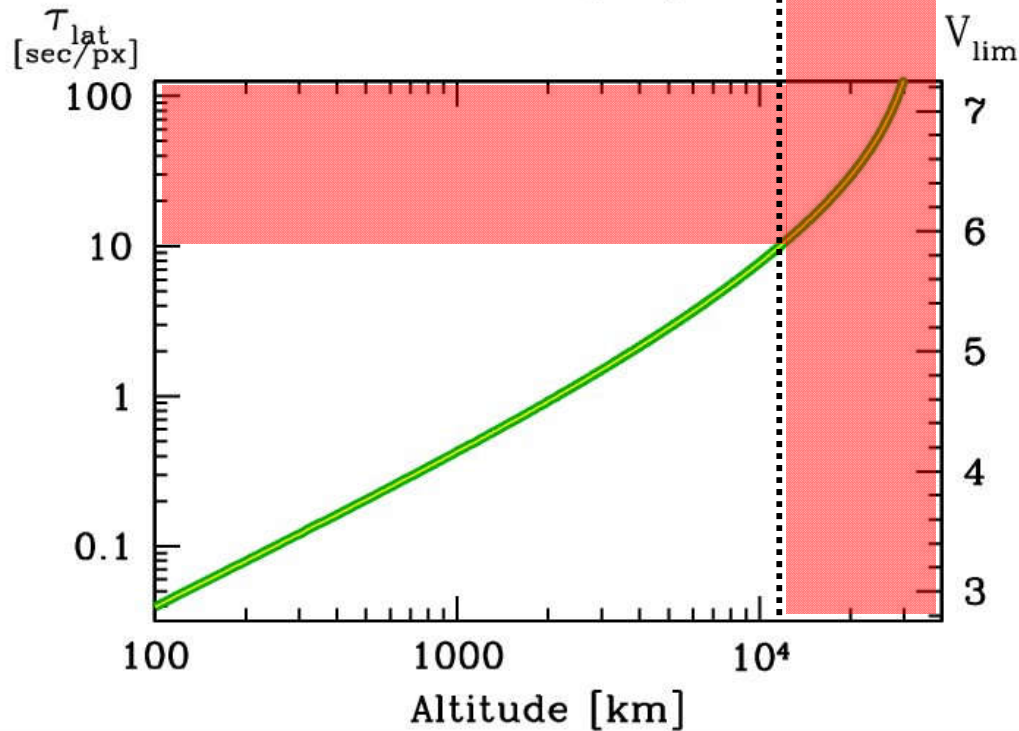
Il rientro della Tiangong-1





@300 km

$$\text{Mag} \sim 2 \implies \text{Size} \approx \frac{5.5 m}{\sqrt{\alpha/0.1}}$$

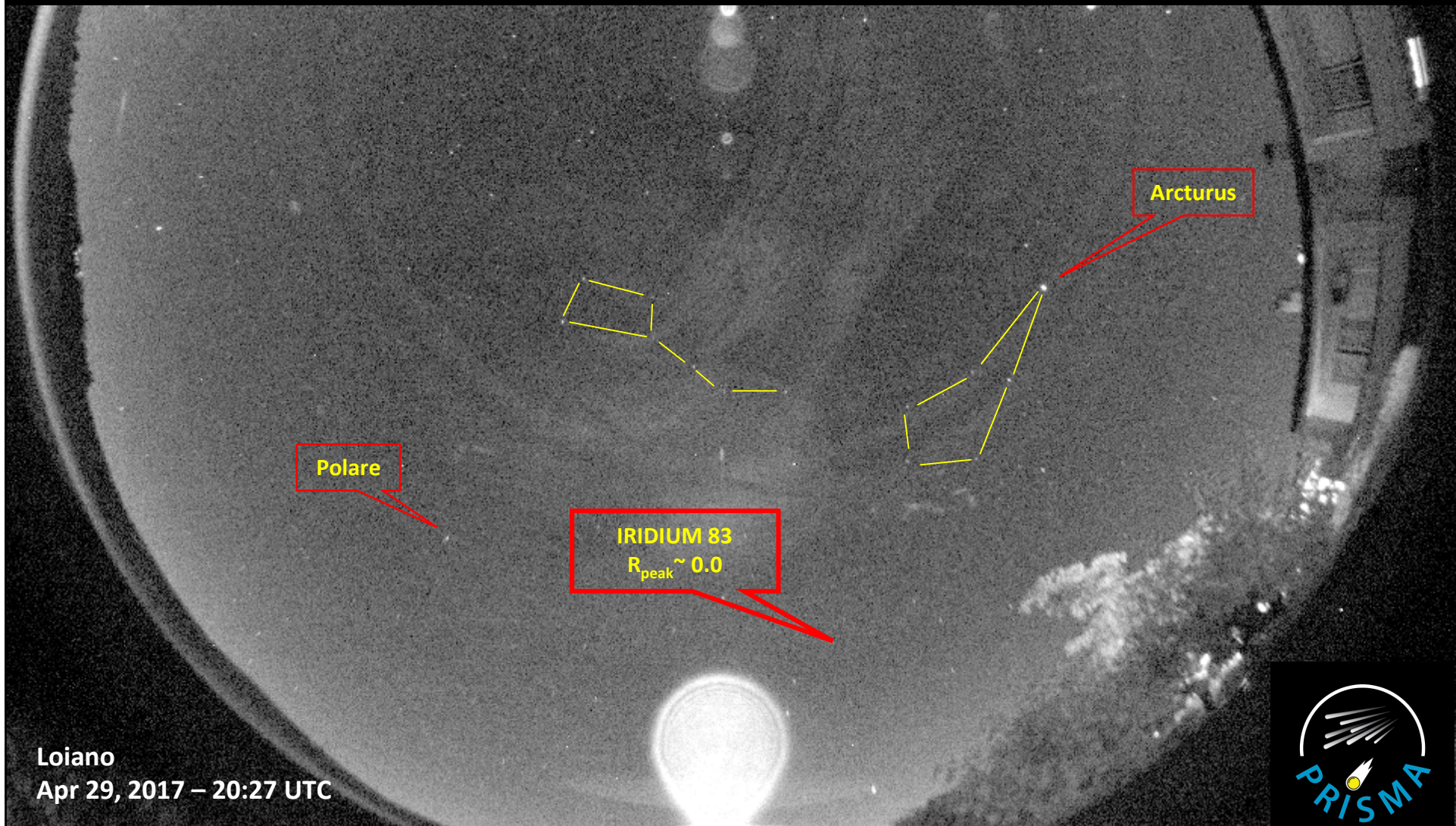
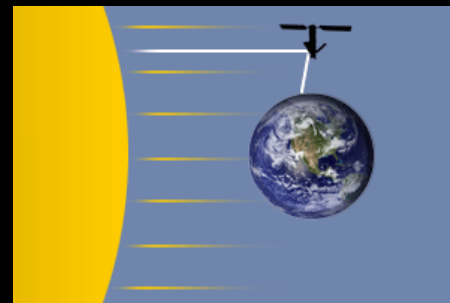


Tempo di latenza
[sec/px]

$$\tau = \left(\frac{px}{10} \right) \frac{2\pi}{360} \frac{h}{R_{\oplus} + h} \left[\left(\frac{GM_{\oplus}}{(R_{\oplus} + h)^3} \right)^{1/2} - \omega_{\oplus} \right]^{-1}$$



I flares IRIDIUM



Loiano
Apr 29, 2017 – 20:27 UTC

