



310 mi (500km)

1
00:00:00,030 --> 00:00:04,040
300 trillion. That's about how

2
00:00:04,060 --> 00:00:08,120
many photons in each laser pulse fired by the ATLAS instrument.

3
00:00:09,260 --> 00:00:12,180
It sounds like a lot, but as the photons sail through the

4
00:00:12,210 --> 00:00:16,270
atmosphere and bounce off the Earth, they reflect back, just like any

5
00:00:16,290 --> 00:00:20,330
light in all directions. ATLAS receives only the photons that reflect straight

6
00:00:20,350 --> 00:00:24,420
back to the instrument, just about a dozen photons. That window of

7
00:00:24,440 --> 00:00:28,630
photons received must be very small in order to keep the timing error of

8
00:00:28,650 --> 00:00:32,810
those photons very small, which allows scientists to calculate elevation