

POSSIBLE LACK OF LOW-MASS STONY METEOROIDS IN THE EARTH'S METEOROID FLUX

What is the science question? Why is there an apparent lack of low-mass stony meteoroids which reach the Earth?

What were your findings?

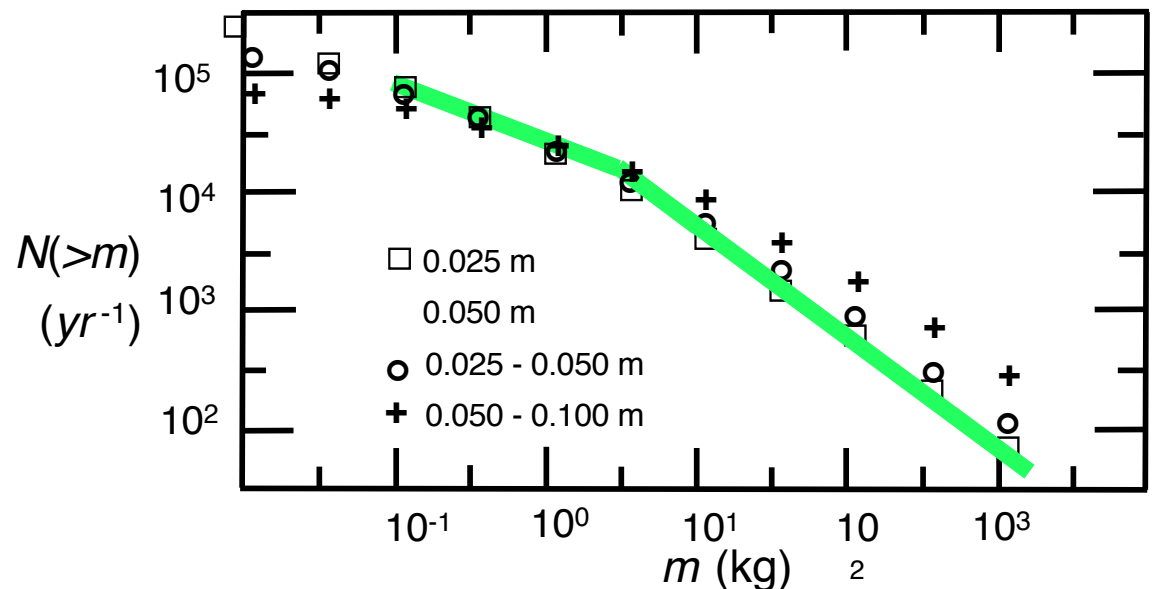
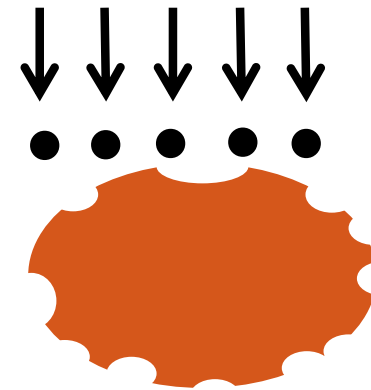
- Heavy meteoroids tend to be less numerous than light ones (right-hand part of the graph)
- Interplanetary dust particles ceaselessly bombard stony meteoroids, eroding them down to smaller masses (top image)
- Space erosion thus shifts the position of meteoroids to smaller sizes (left-hand part of the graph)

What was the impact?

Theory indicates that eroding a few centimeters off meteoroids (data points in bottom image) appears to explain the break seen in some data (green lines) at about 2.5 kg

Why does it matter to non-scientists?

Space erosion can also cause drag on meteoroids in the asteroid belt, aiding in their delivery to the Earth



$N(>m)$ is the yearly number of meteoroids bombarding Earth with masses greater than m .