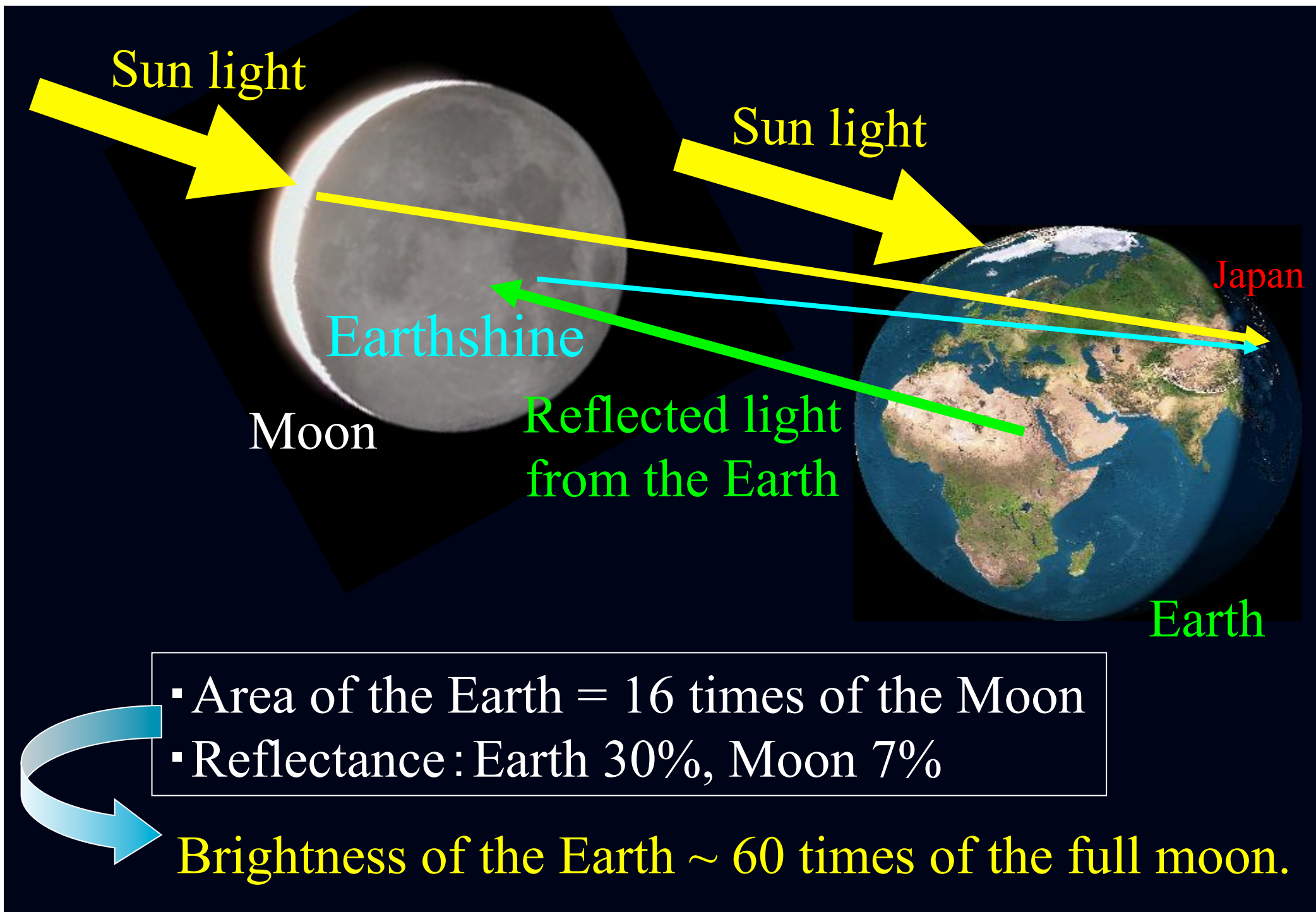




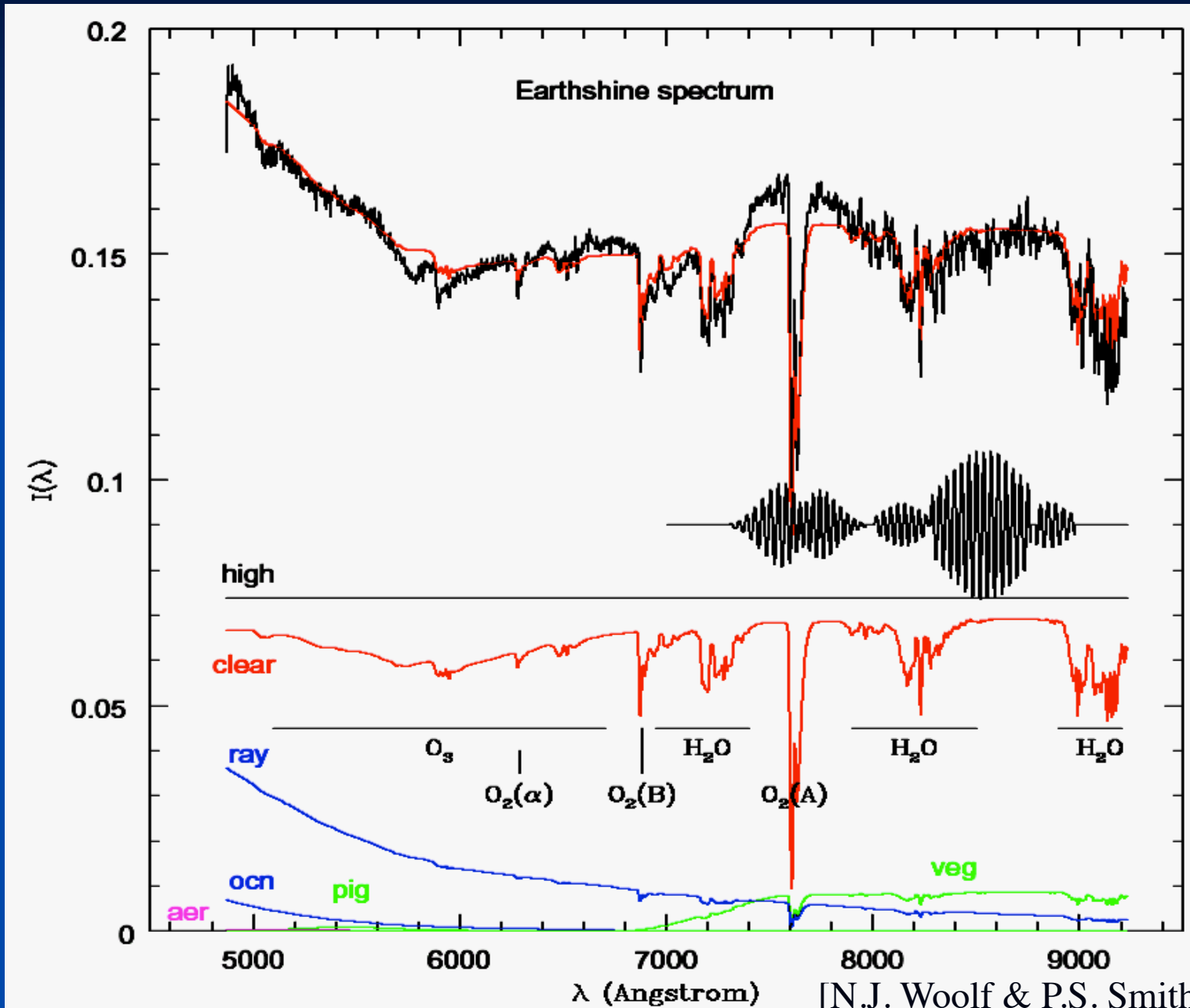
Spectroscopic Observations of Earthshine

Astronomy club, Meiji University

Noboru Ebizuka, RIKEN



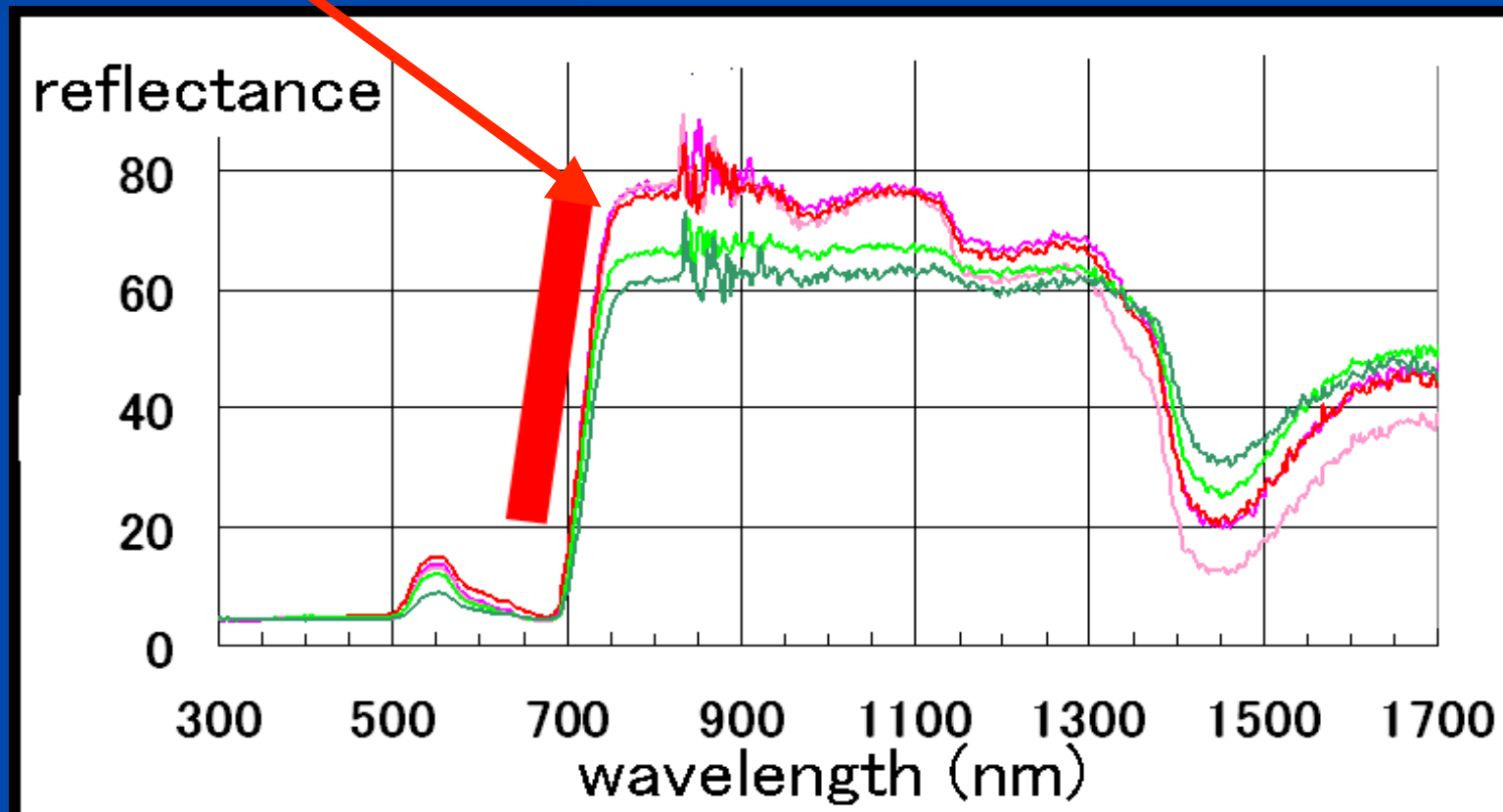
Model Spectrum of Earthshine



In the case of the Earth like planet is discovered...

Signs of life → Spectroscopic observation → 30m class ground based or 10m class Space based telescopes

Red Edge can be an indicator when there is a plant .



The Earth gazed from the Moon 1



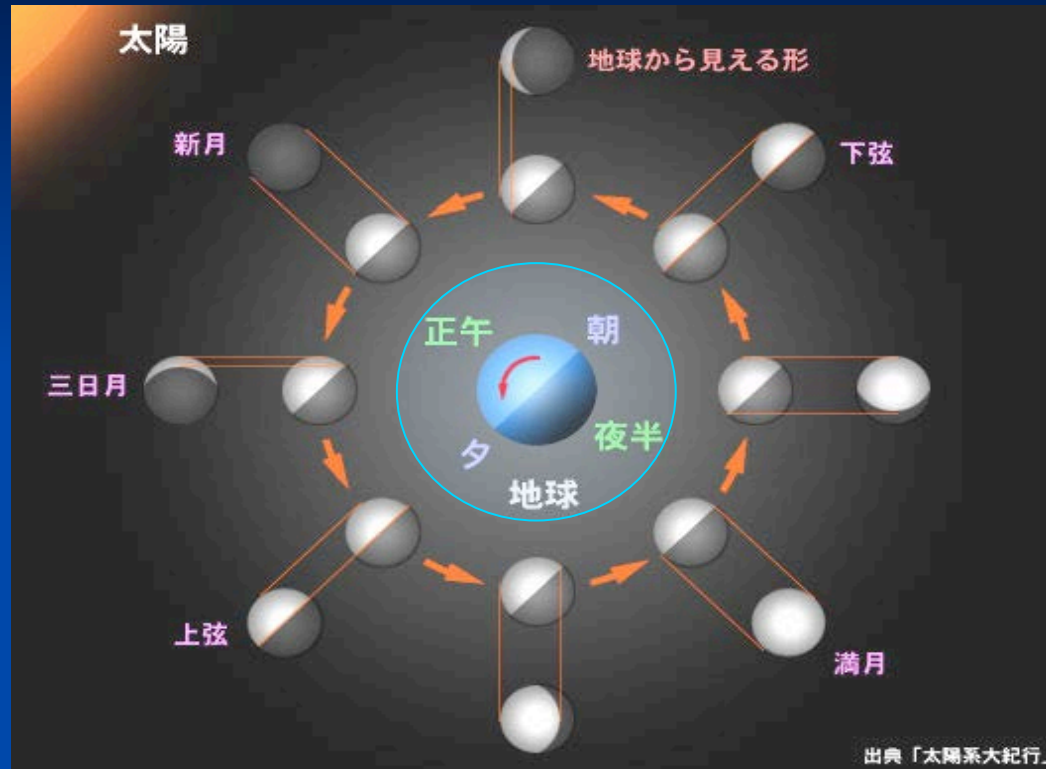
Dawn



Reflection from
the Pacific Ocean



Water



Eveing



Reflection from
continents

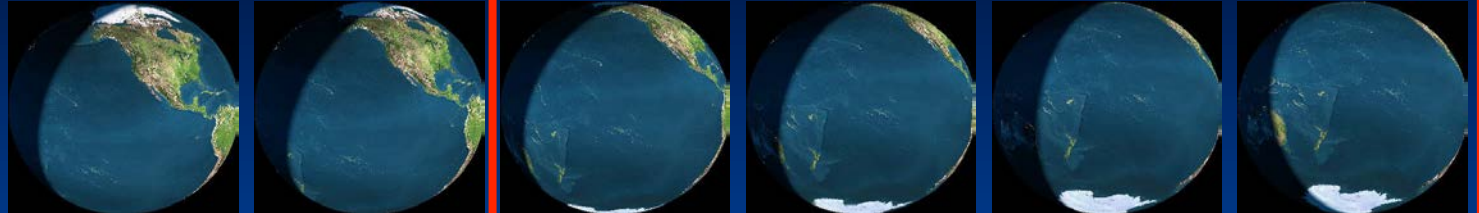


Vegetation

Japan Islands are located
on the ideal position for
earthshine observations.

The Earth gazed from the Moon 2

Before the
new Moon



After the
new Moon



2003

Oct.

Nov.

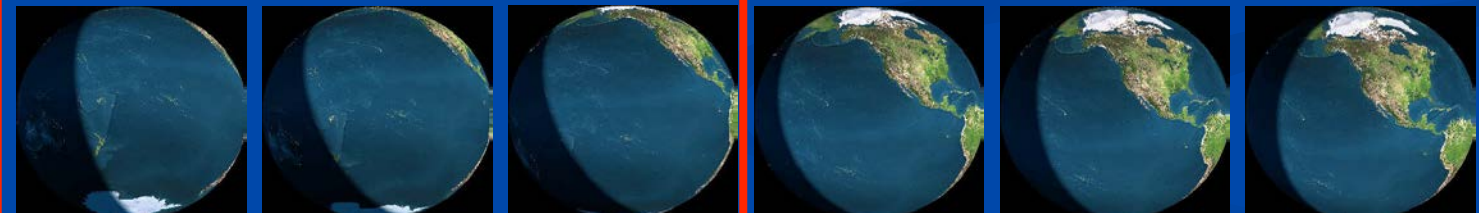
Dec.

Jan.

Feb.

March

Before the
new Moon



After the
new Moon



2003

April

May

June

July

Aug.

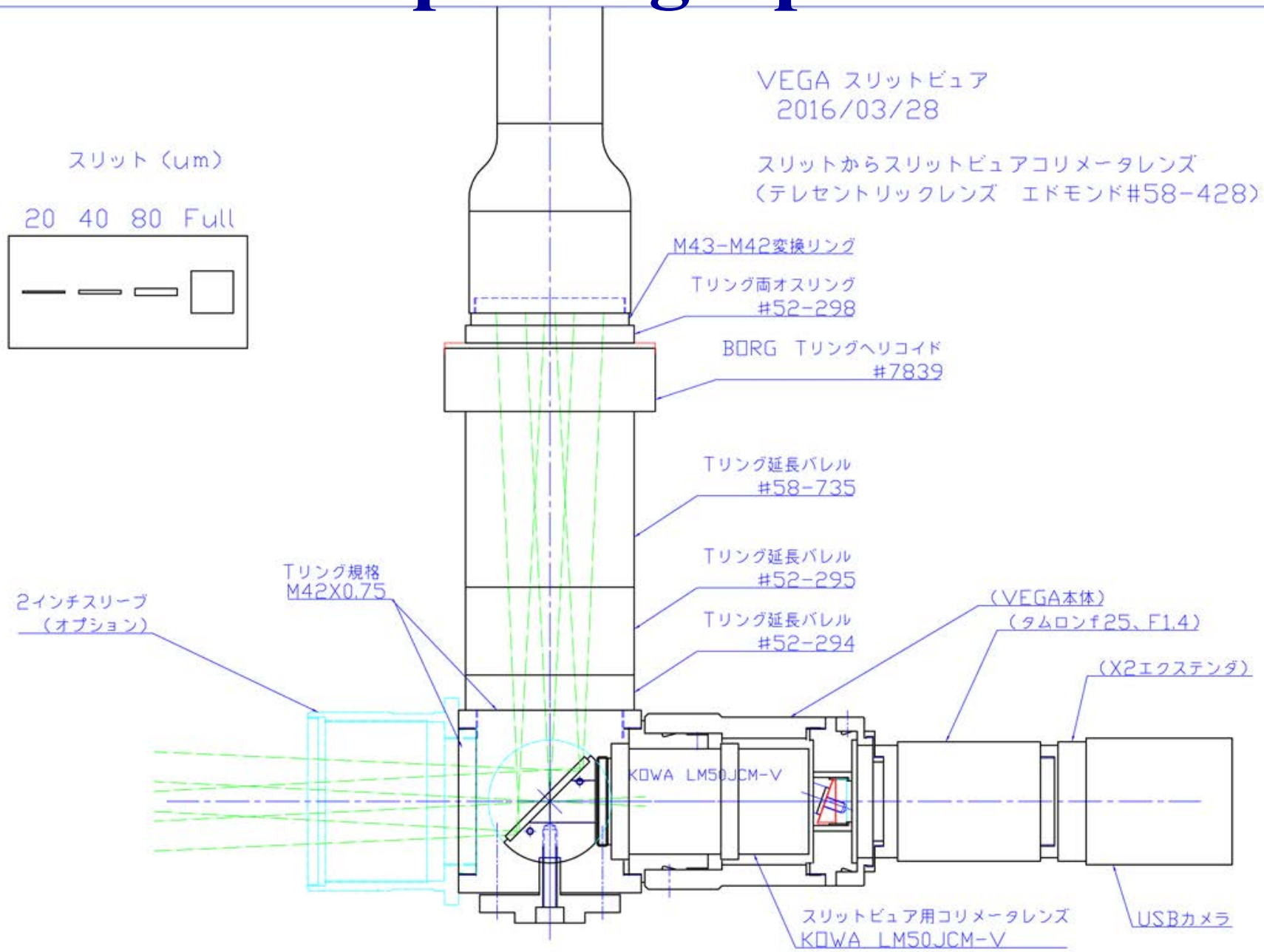
Sept.

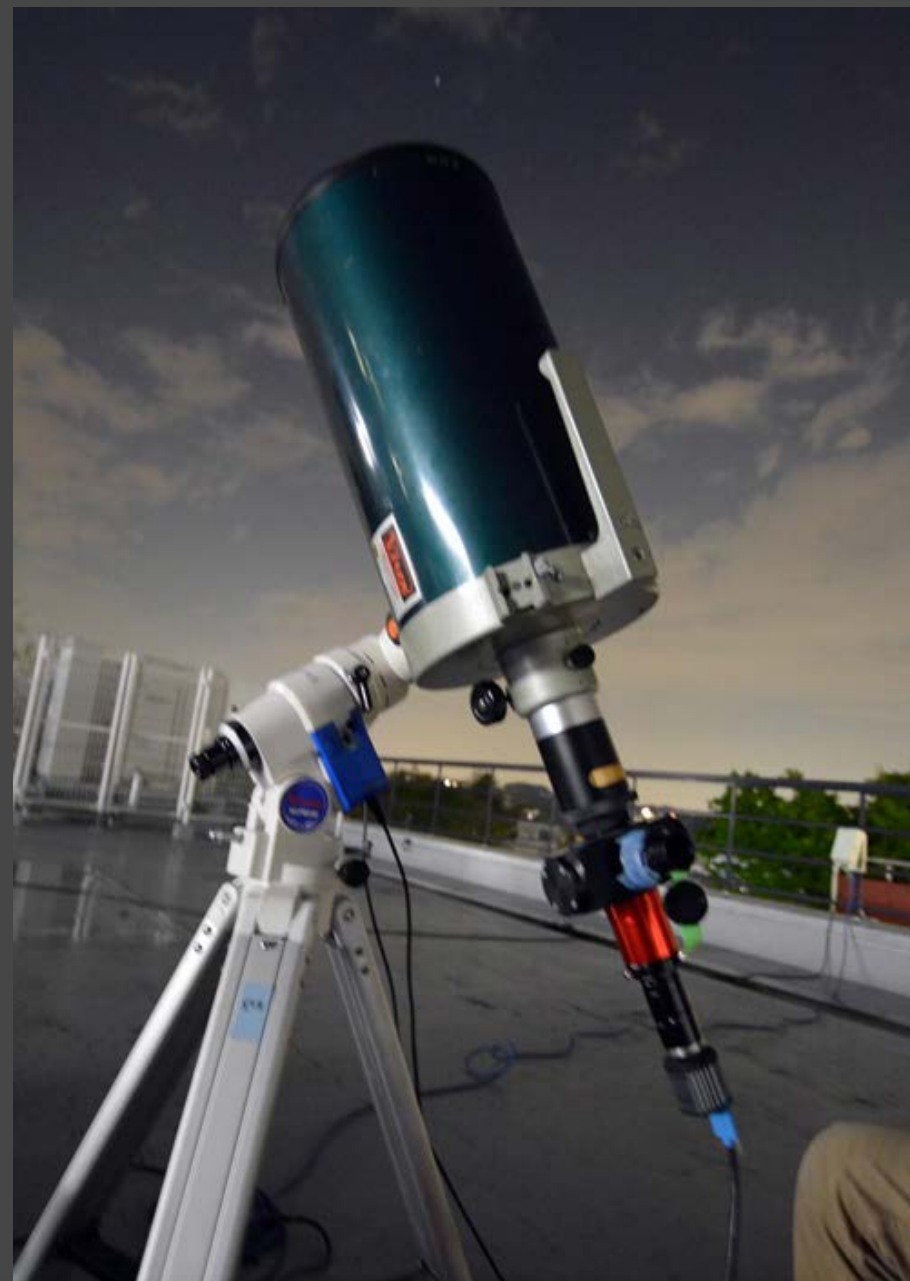
Good condition!

Visible Educational Grism Spectrograph VEGA



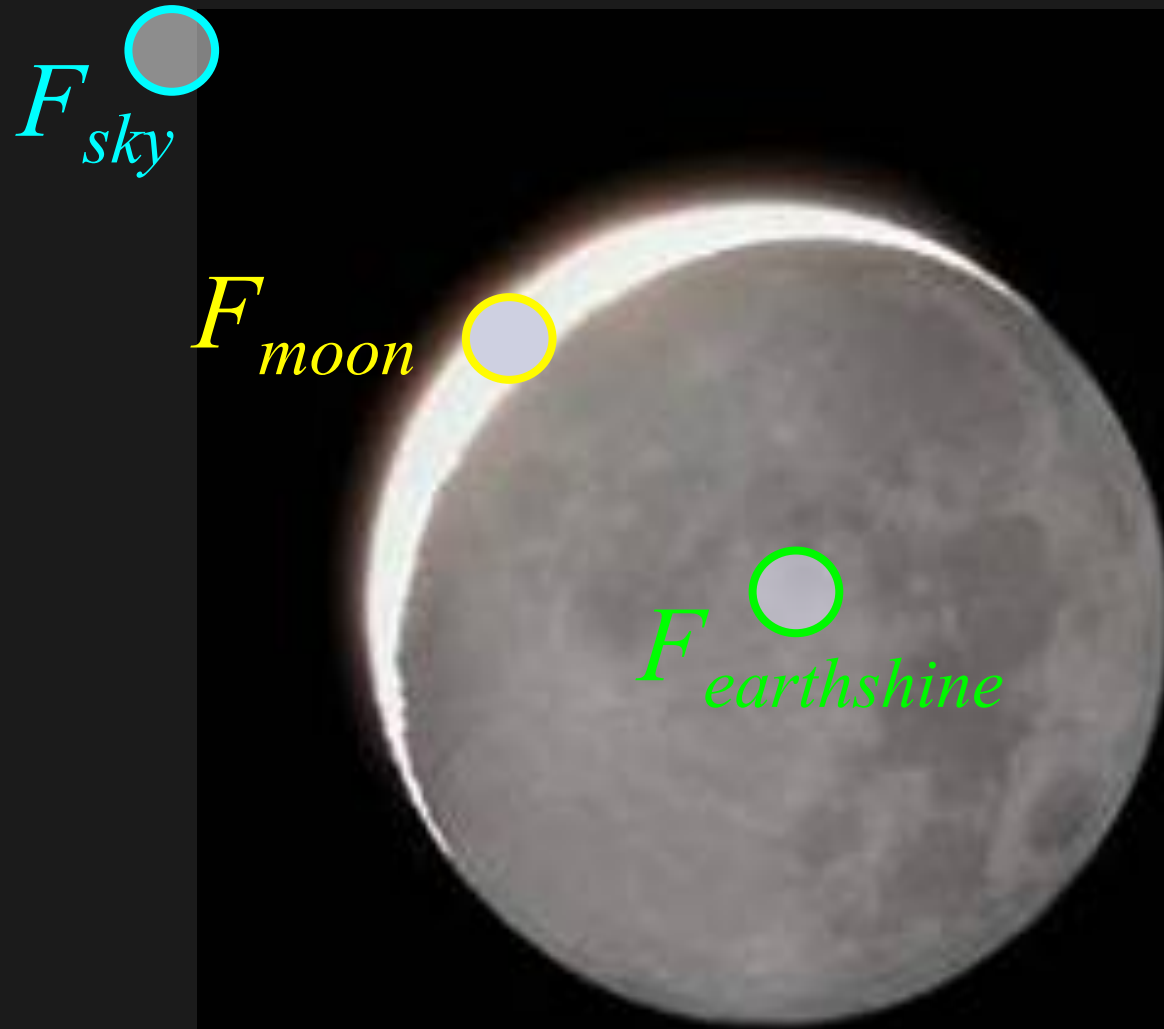
Grism Spectrograph VEGA





12, 14 April, 11, 12 May 2016

Slit Position of Earthshine Observation



To be continued