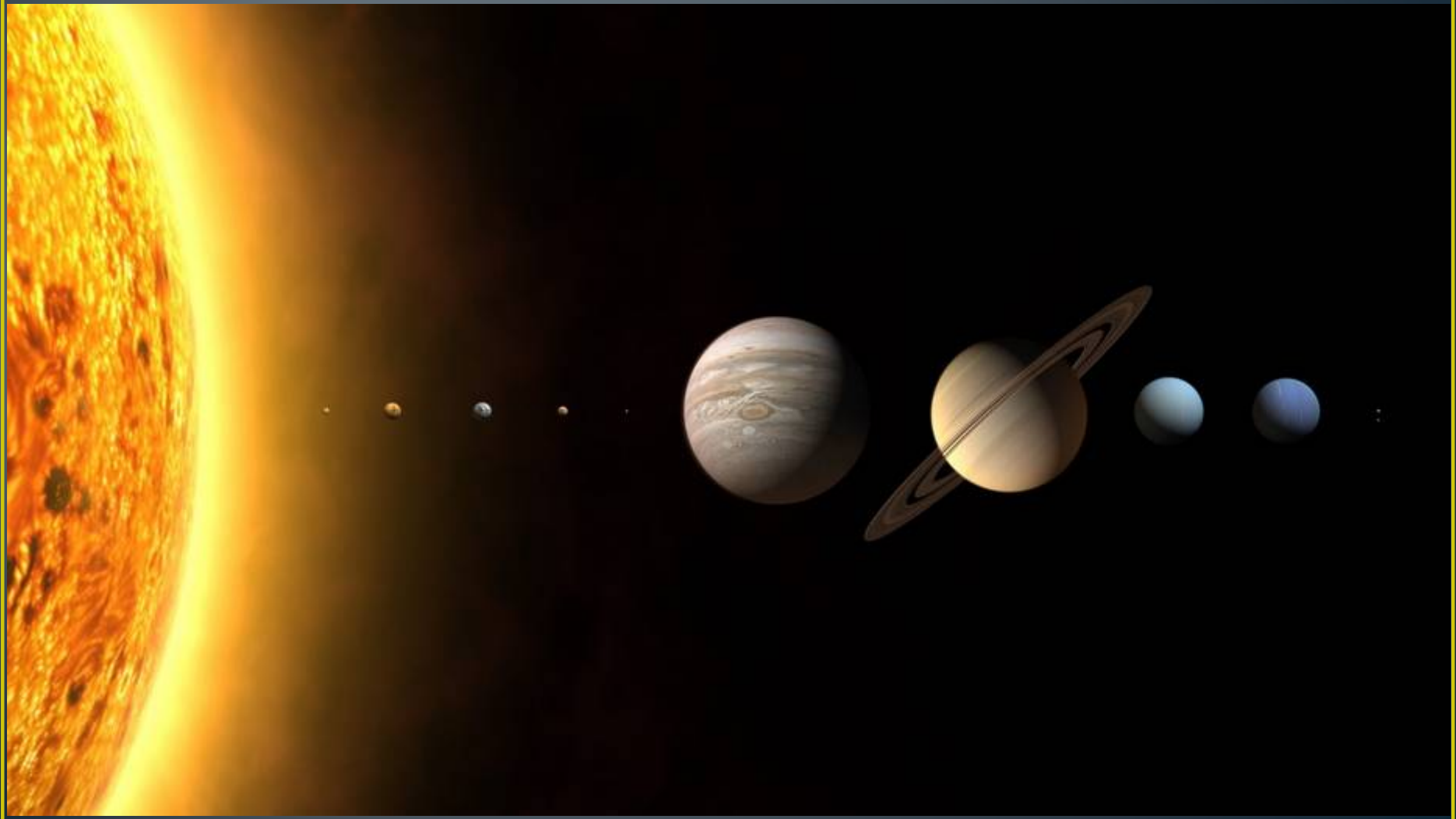
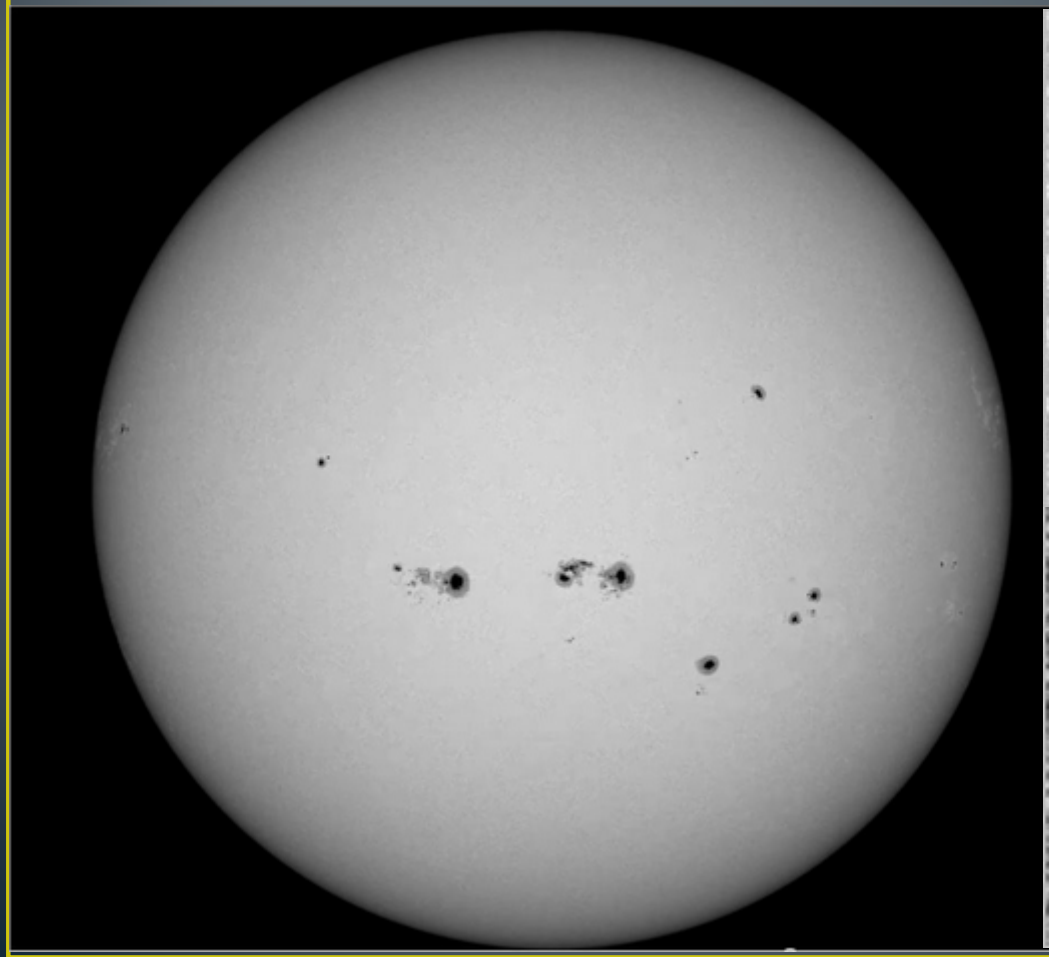
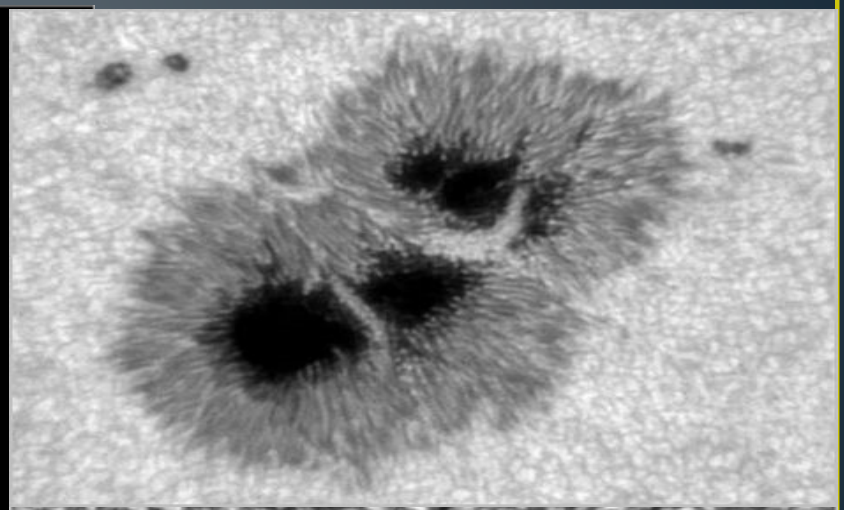
Willkommen zum Väteraktions-Tag 2016

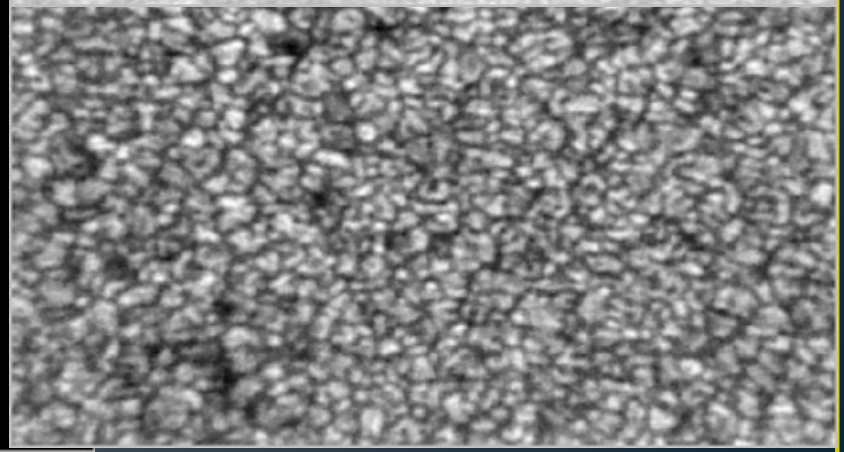
Unser Sonnen System
Der Ort im Universum an dem wir leben.



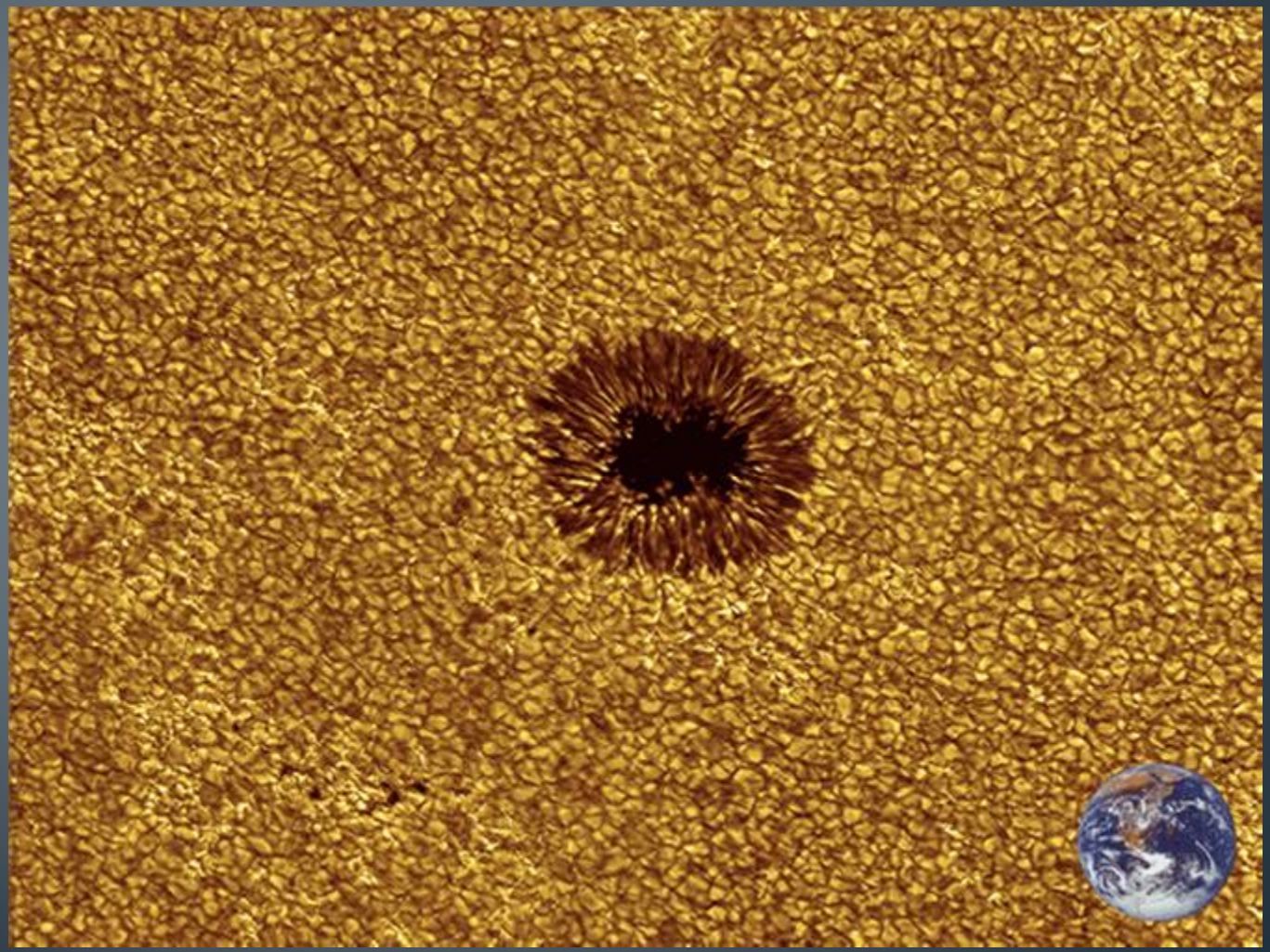
Die Sonne mit ihren Sonnenflecken und der Granulation.
Die Sonne, Kraftwerk und Leben Spender.



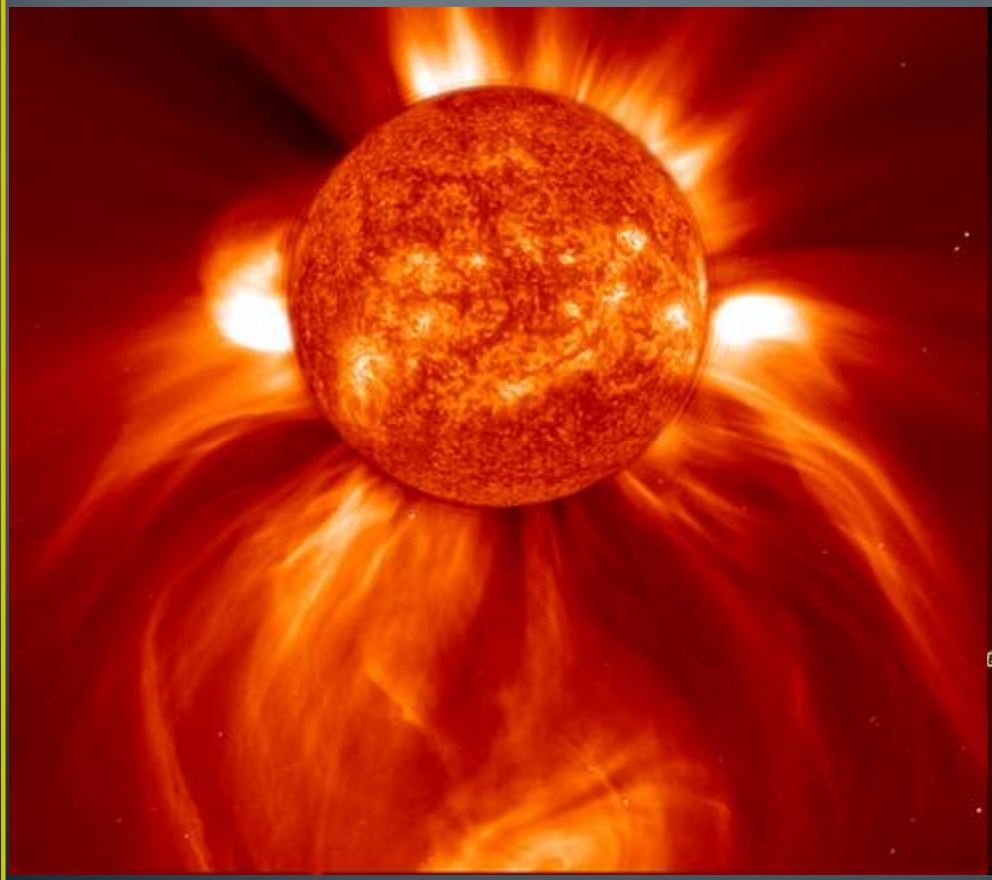


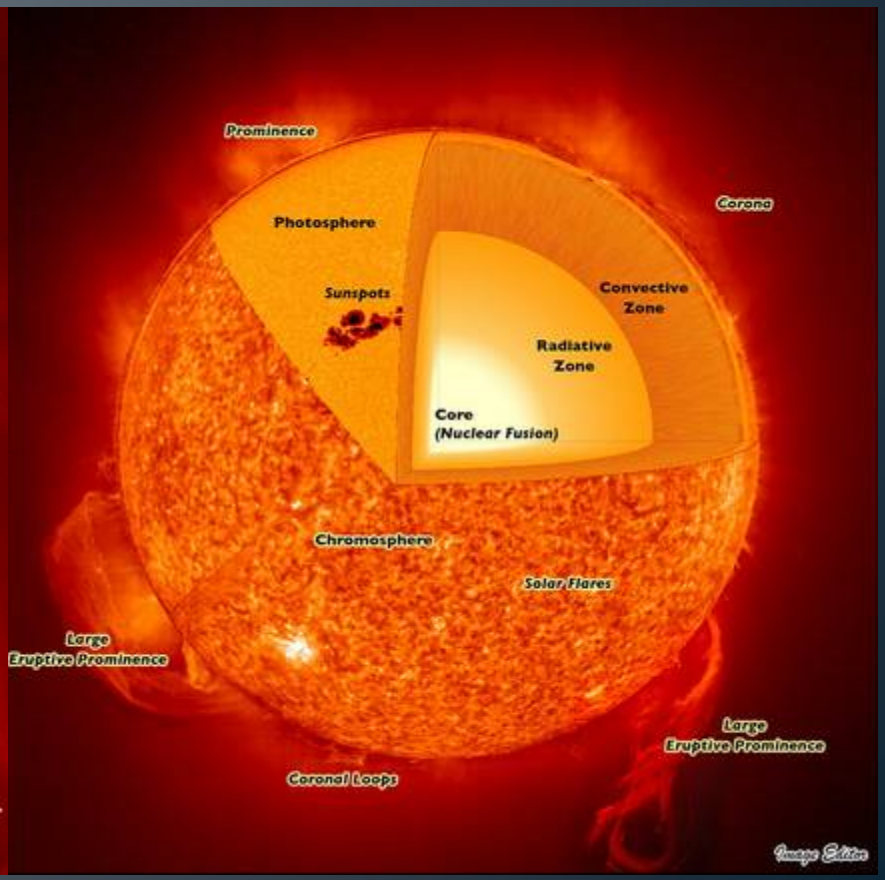


Ein Sonnenfleck und was darin passiert. Die Erde ist kleiner als viele dieser Sonnenflecken.



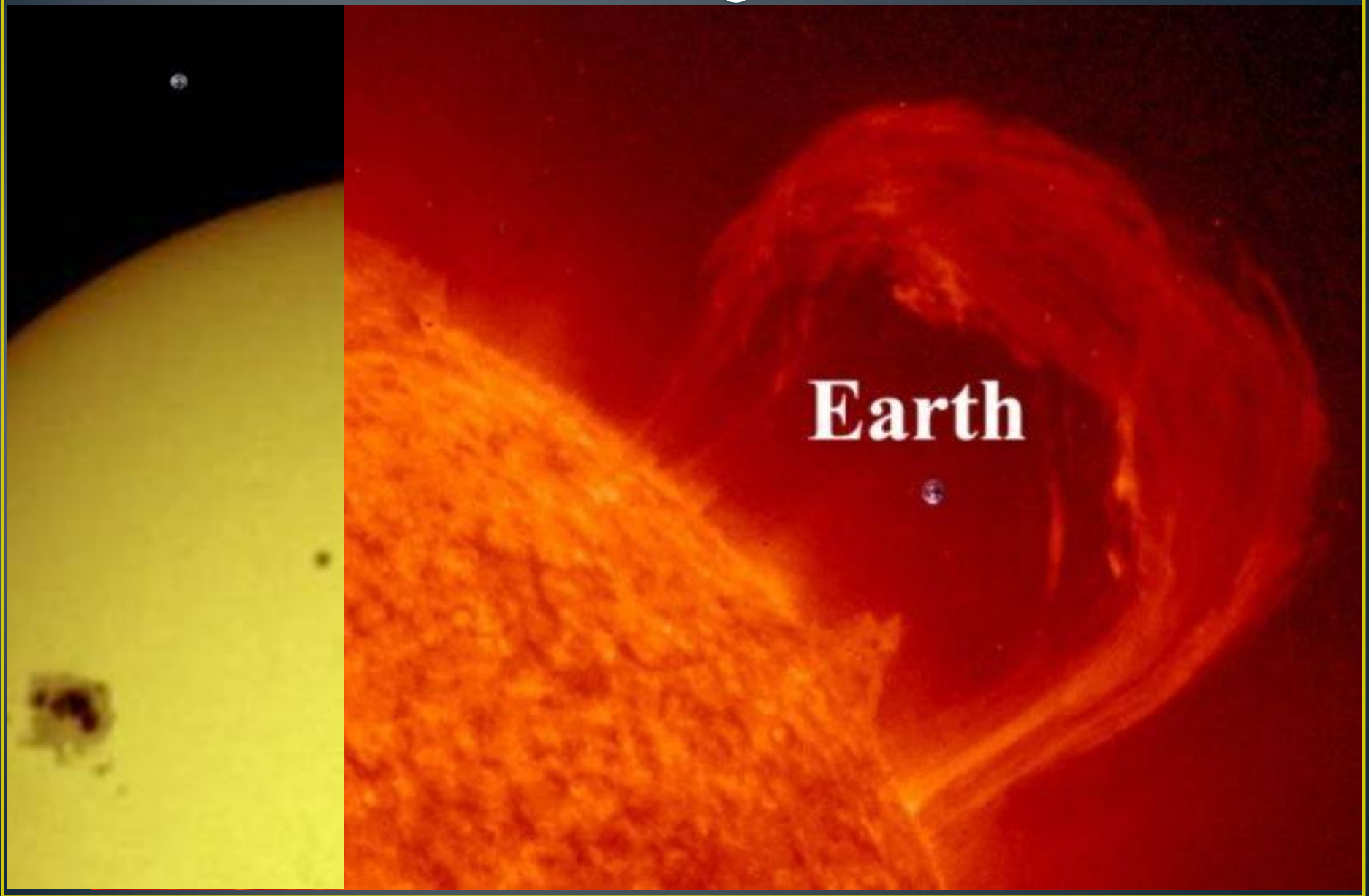
Die Sonne wie sie wir nur mit Zusatzgeräten erkennen.



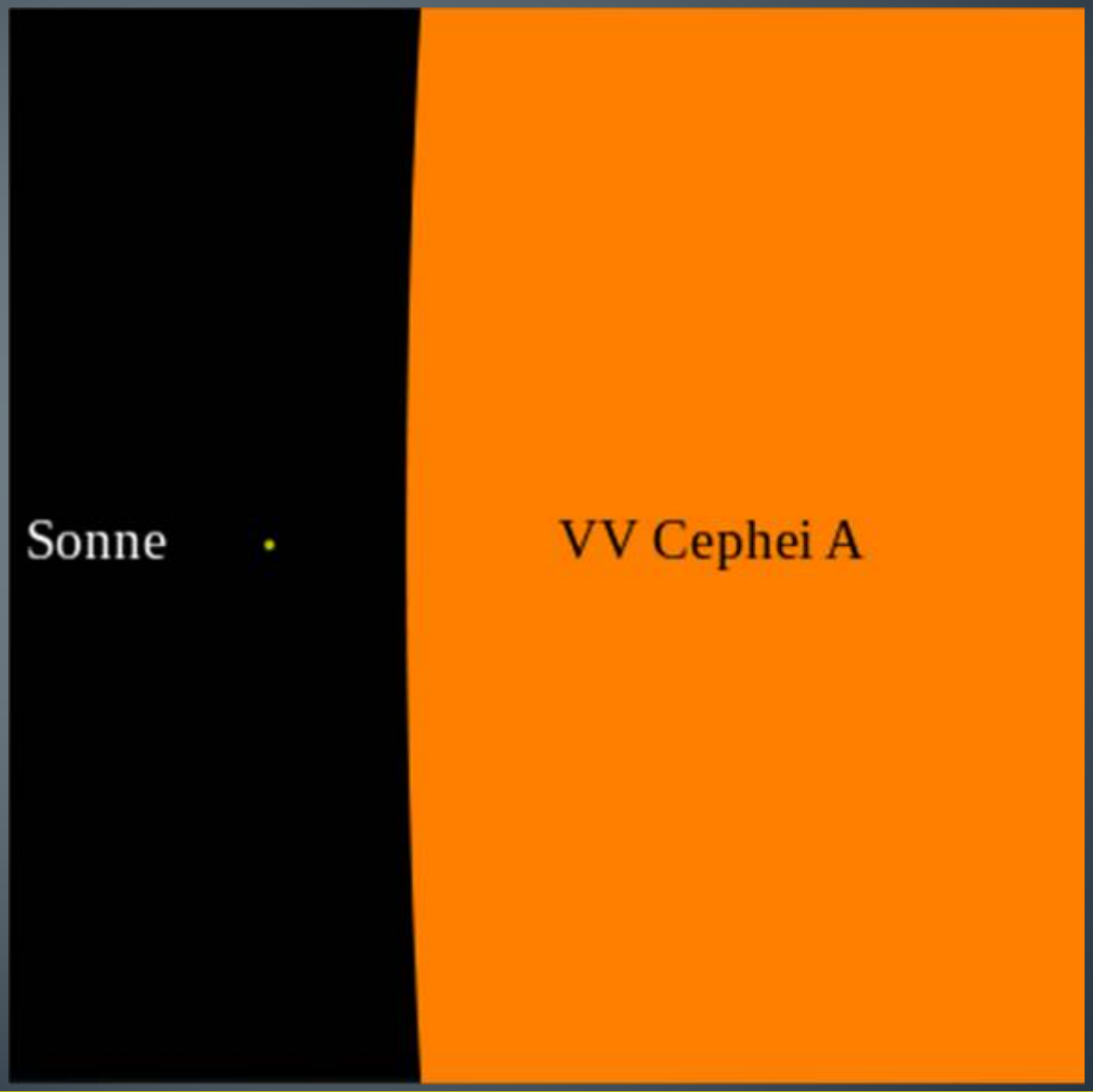


Aufnahmen mit dem Satelliten SDO. Sun Dynamic Observartory.

Unsere Erde im Vergleich zur Sonne



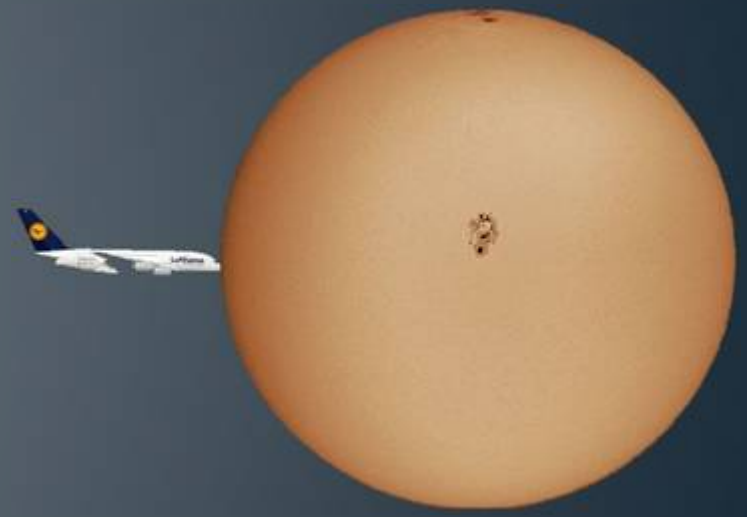
Unsere Sonne im Vergleich zu einem Riesenstern



Abstand Erde-Sonne: 150.000.000 Mio. km

Wie lange benötigt ein Flugzeug für diese Strecke wenn es immer mit 1000 km/h fliegt?

Lösung: Antwort 3
= 17 Jahre



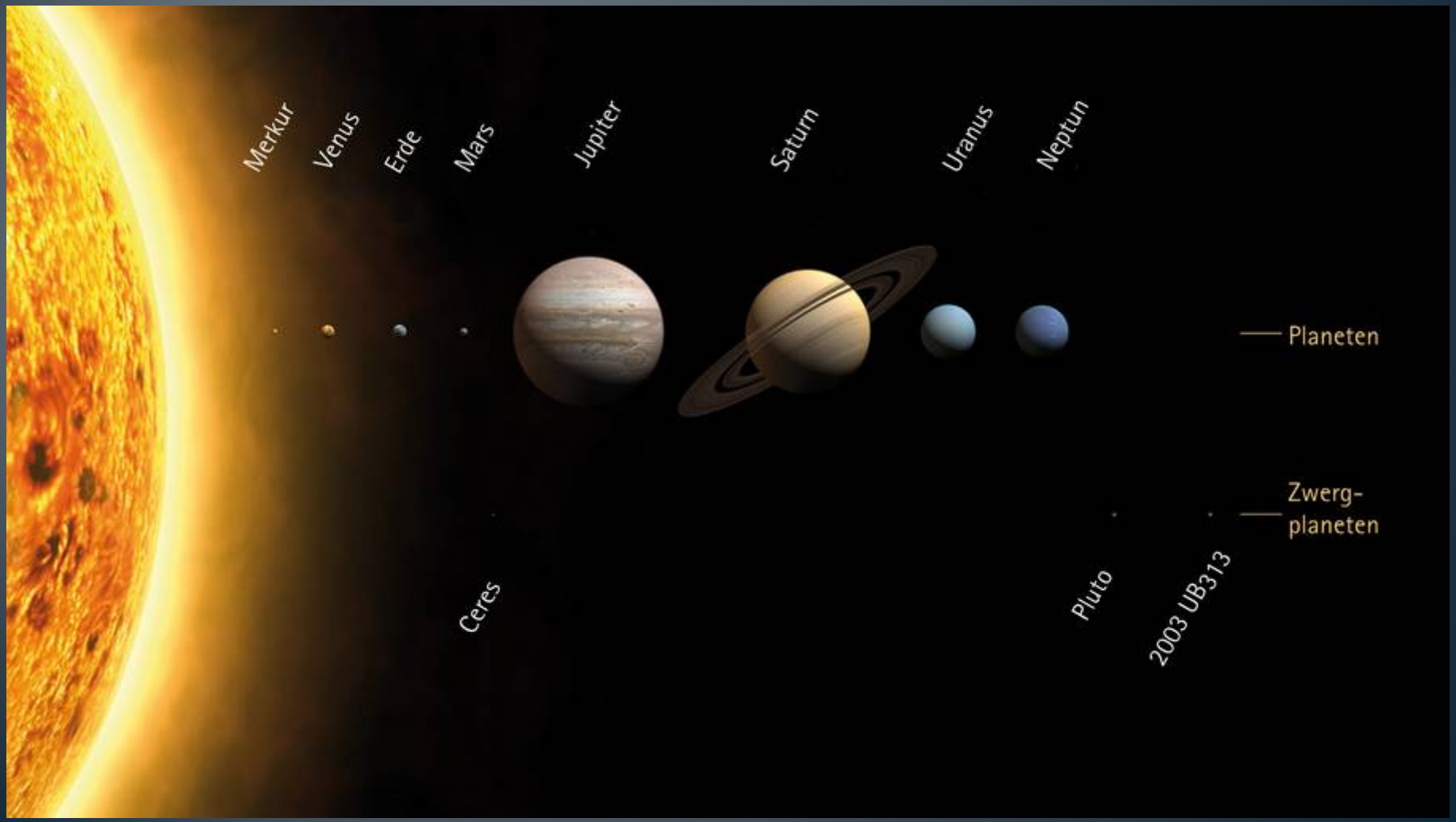
Antwort 1	Antwort 2	Antwort 3	Antwort 4
6 Jahre ?	12 Jahre ?	17 Jahre ?	24 Jahre ?

Der
Durchmesser der Sonne
beträgt 1.392.520 km.
Wie viel Zeit benötigt ein Auto für
diese Strecke?
Das Auto fährt konstant mit 200 km/h.

Die Lösung: Antwort 2 = 290 Tage

Antwort 1	Antwort 2	Antwort 3
190 Tage	290 Tage	390 Tage

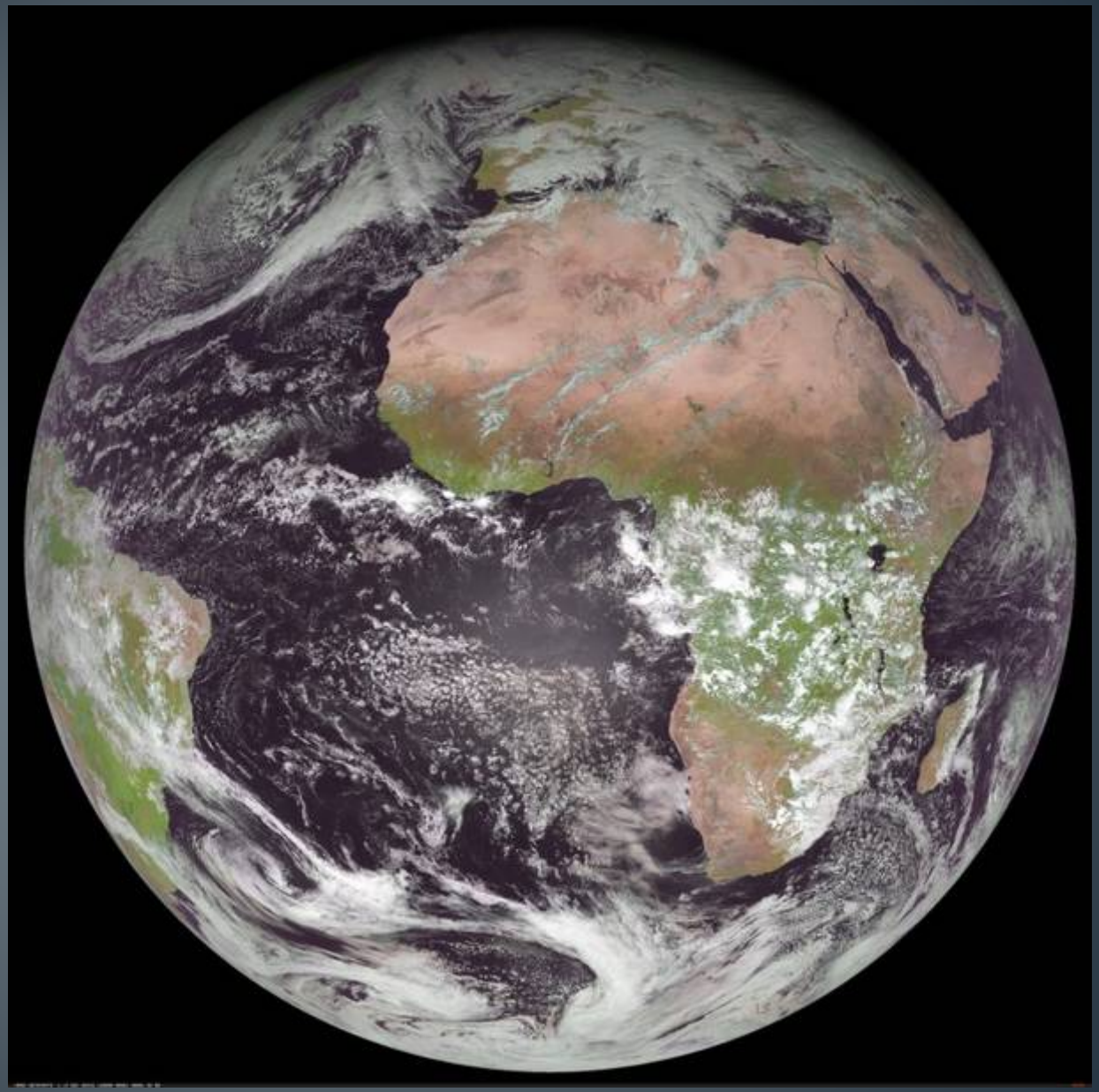
Die Planeten des Sonnen Systems.



Merkur und Erde

Die Erde und der Mond aus der Entfernung des Merkur gesehen.
Eine Aufnahme der Sonde Messenger.

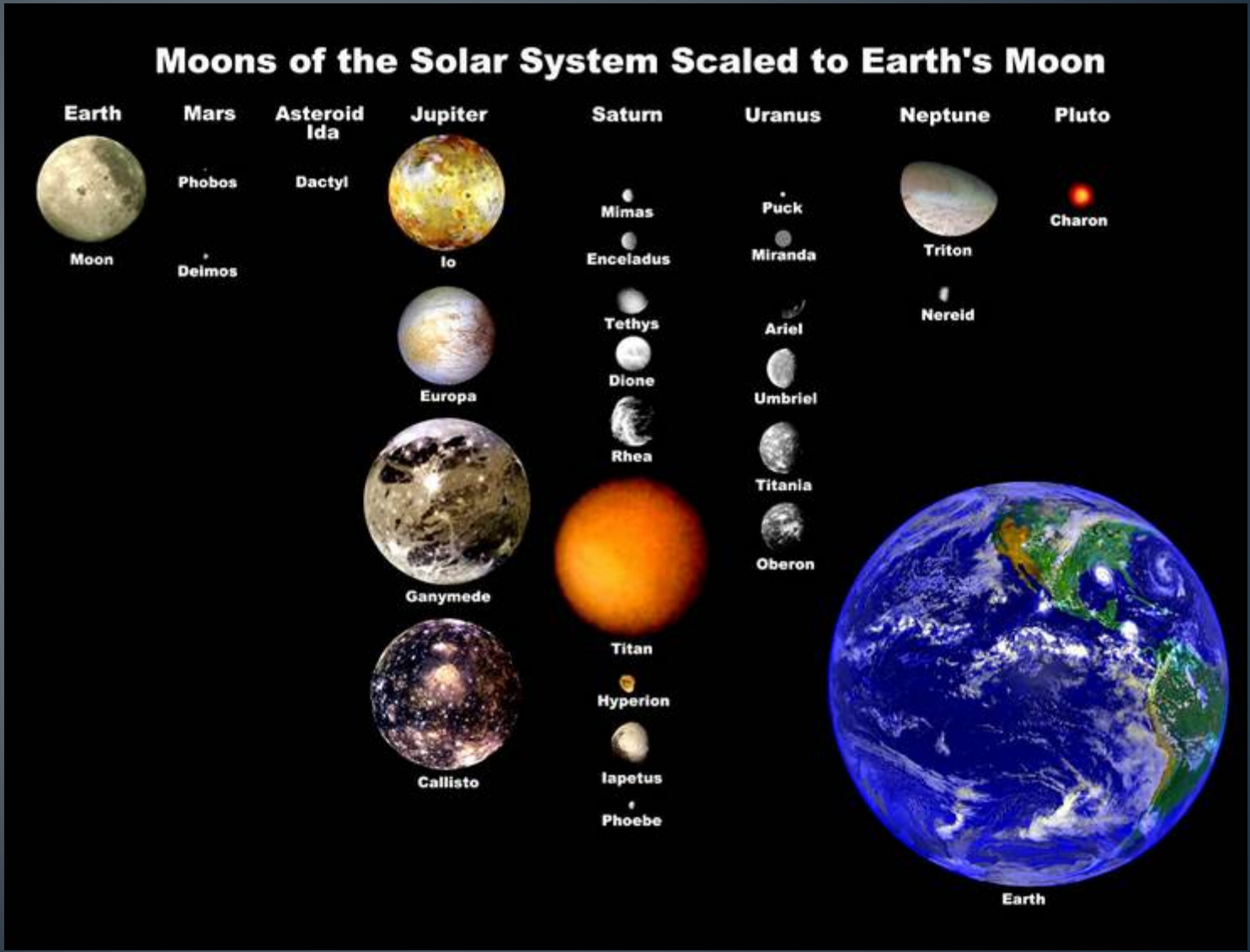
Venus und Erde



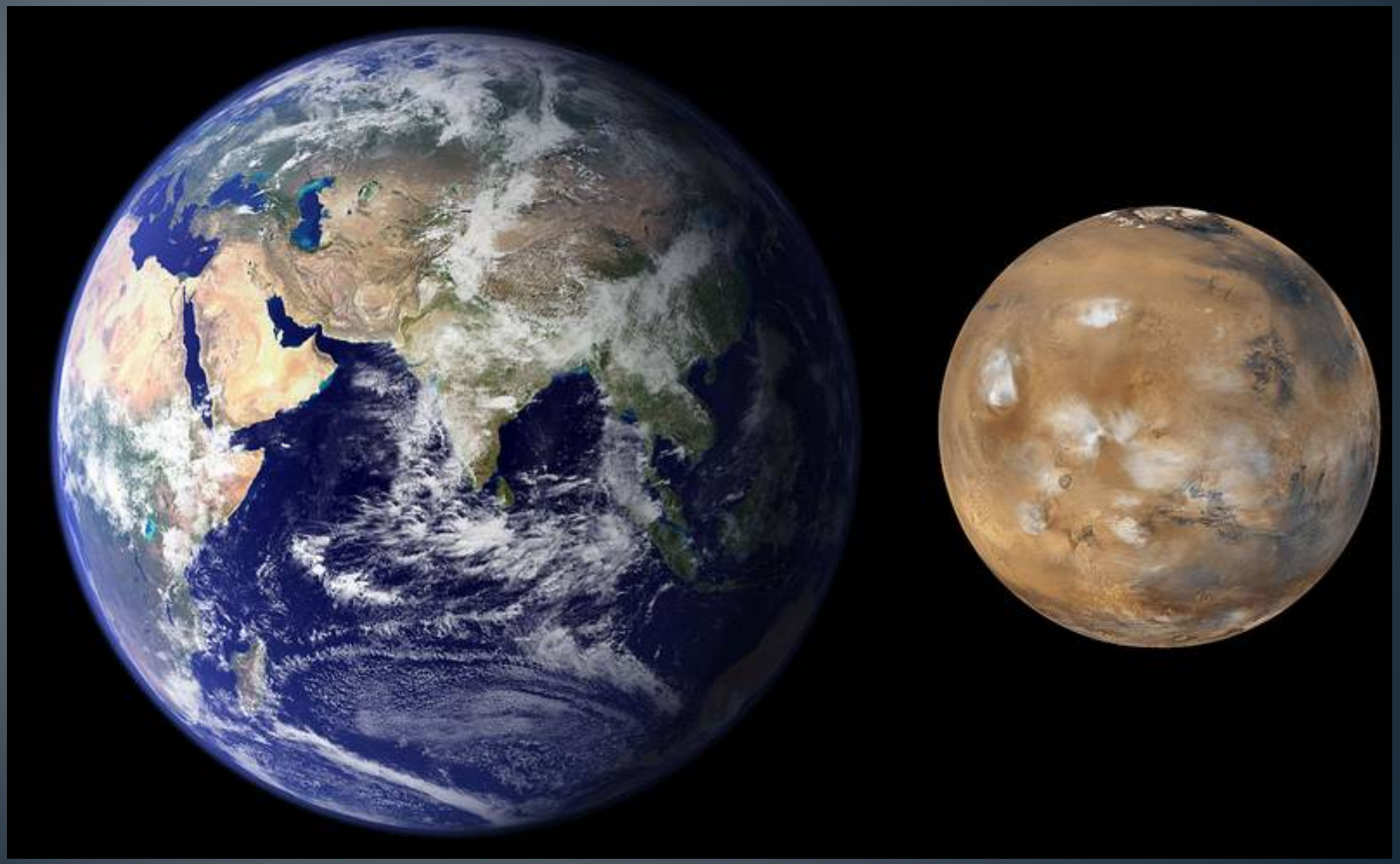
Erde und Mond

Die Erde und der Mond im Größen Vergleich, oben Größe und Entfernung.

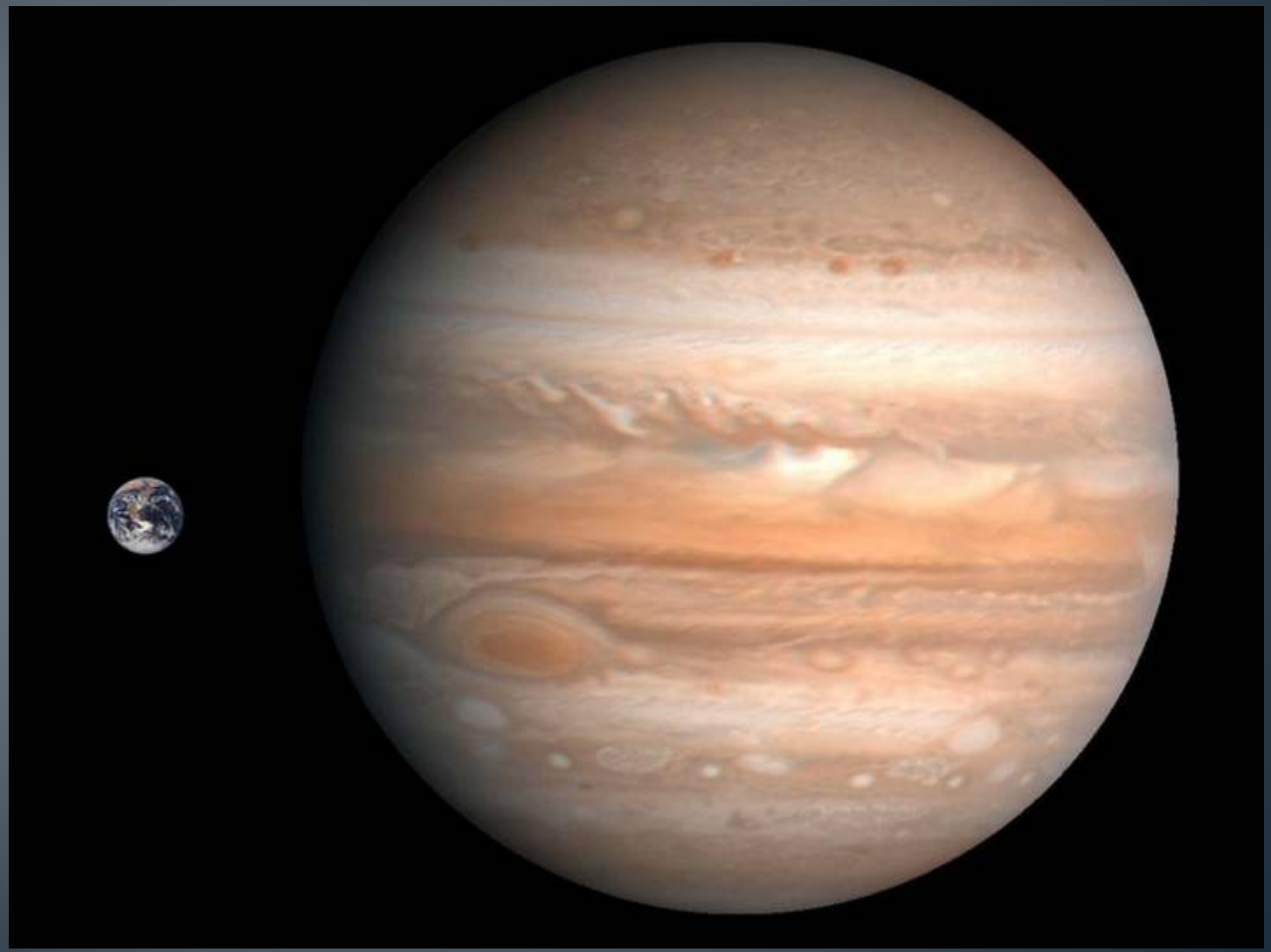
Monde im Sonnen System



Erde und Mars



Erde und Jupiter



Erde und Saturn

Die Sonde Cassini hat vom Saturn aus die Erde aufgenommen.

Erde und Uranus

Erde und Neptun

Sonne und Planeten kann man nicht im gleichen Maßstab wie Entfernungen im Sonnensystem darstellen. Hier im Modell 1:1.000.000.000

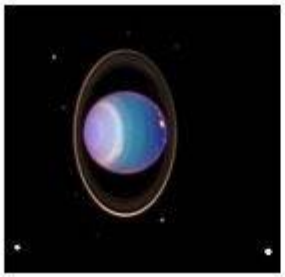
Größen im Sonnen System im Modell 1: 1.000.000.000

Die Sonnen hätte da einen Durchmesser von 1,39 m

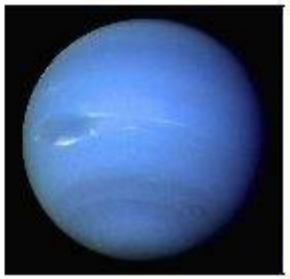
Jupiter 14 cm:

Saturn 12 cm:

Uranus 5 cm:



Neptun 5 cm:



Erde 1,3 cm:

Venus 1,2 cm:

Mars 6,8 mm

Merkur 4,9 mm

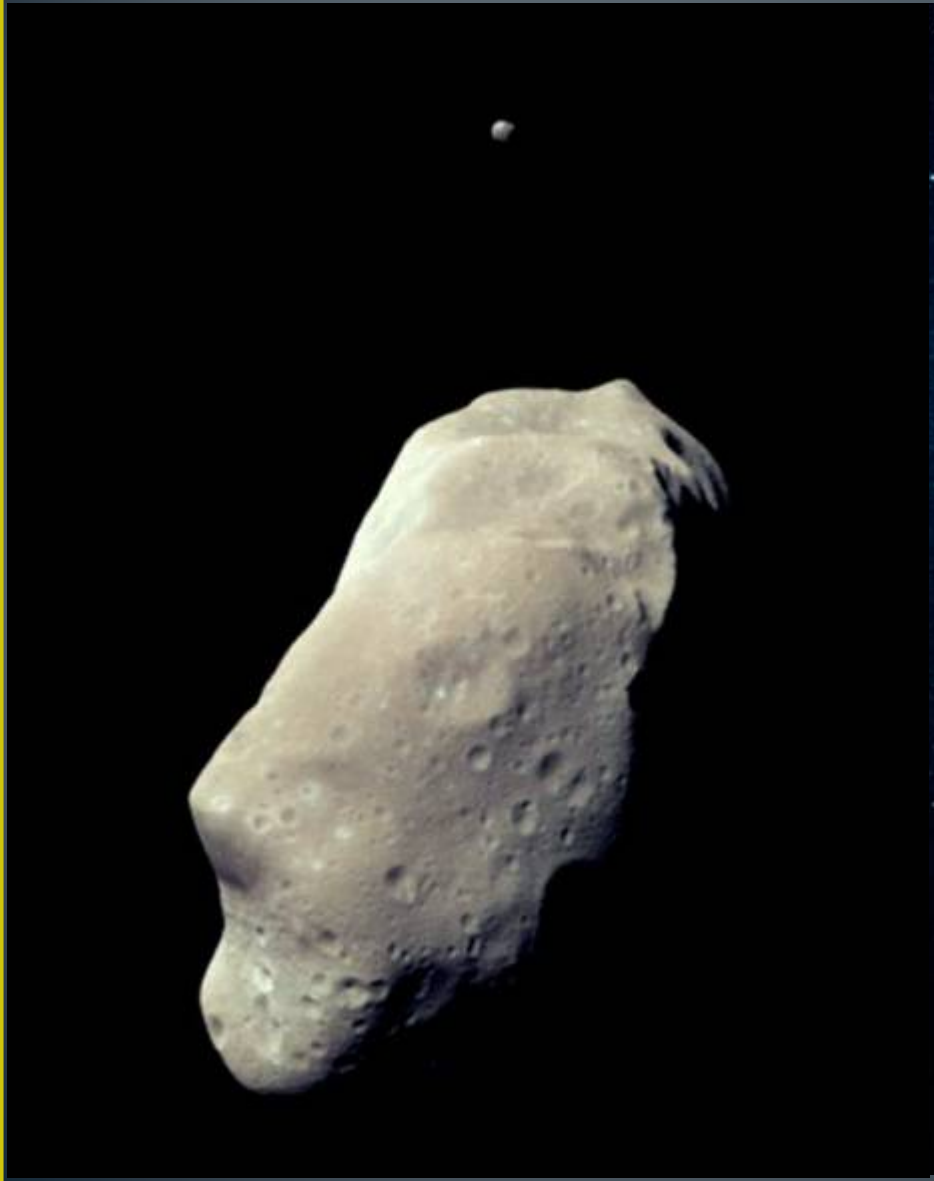
Die im Modell verkleinerten Planeten verteilt auf Nordamerika, ist so wie das Verhältnis, Größe der Planeten auf dem Raum vom „Planeten System“.

Nordamerika

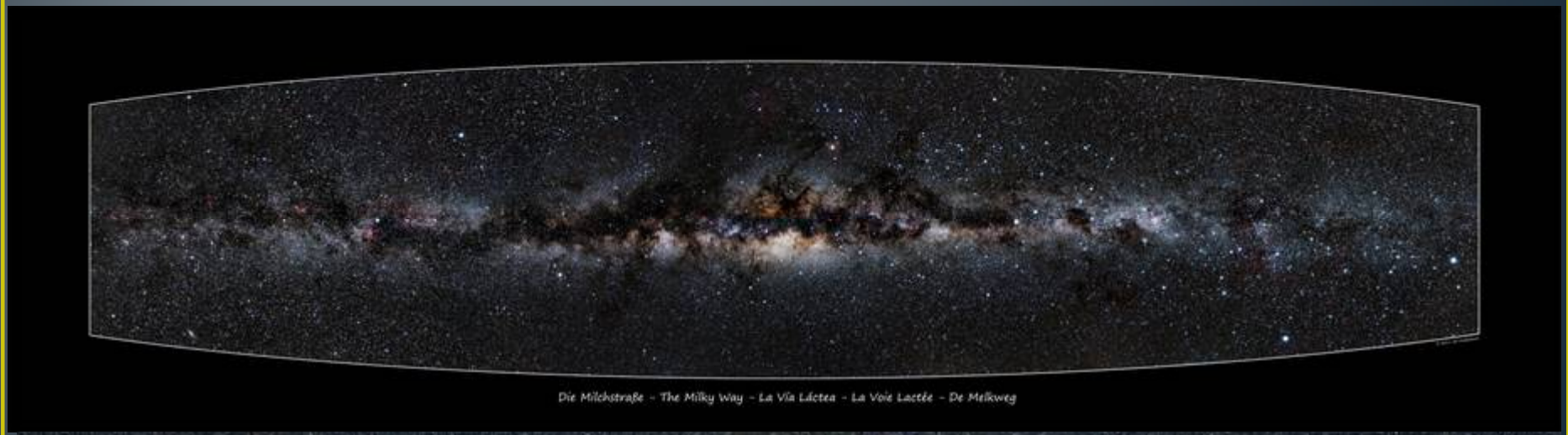
Fläche	24.930.000 km²
Bevölkerung	über 528.750.000
Bevölkerungsdichte	21 Einwohner/km²

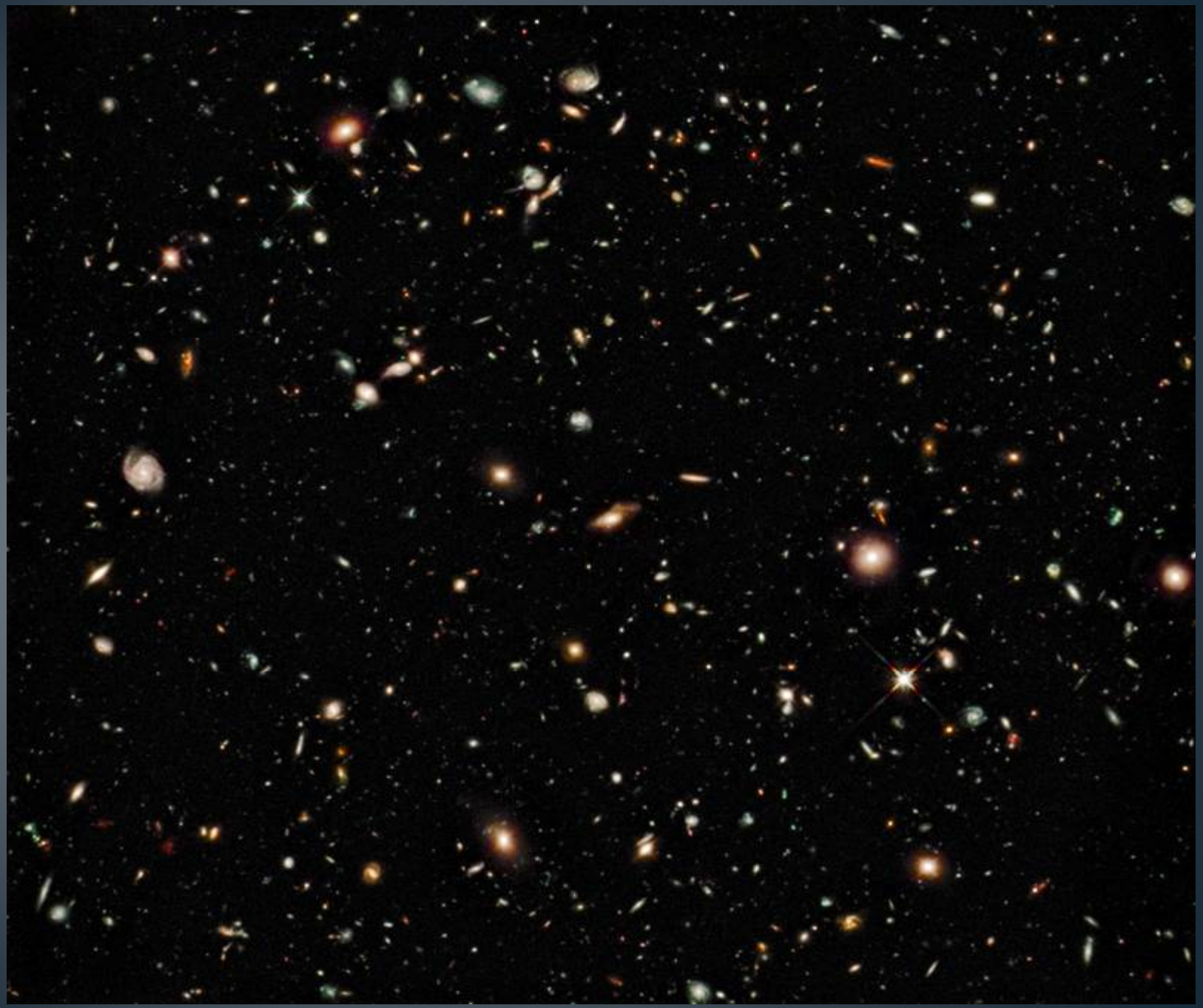
Pluto und sein Mond Charon.

Asteroiden und Kometen.

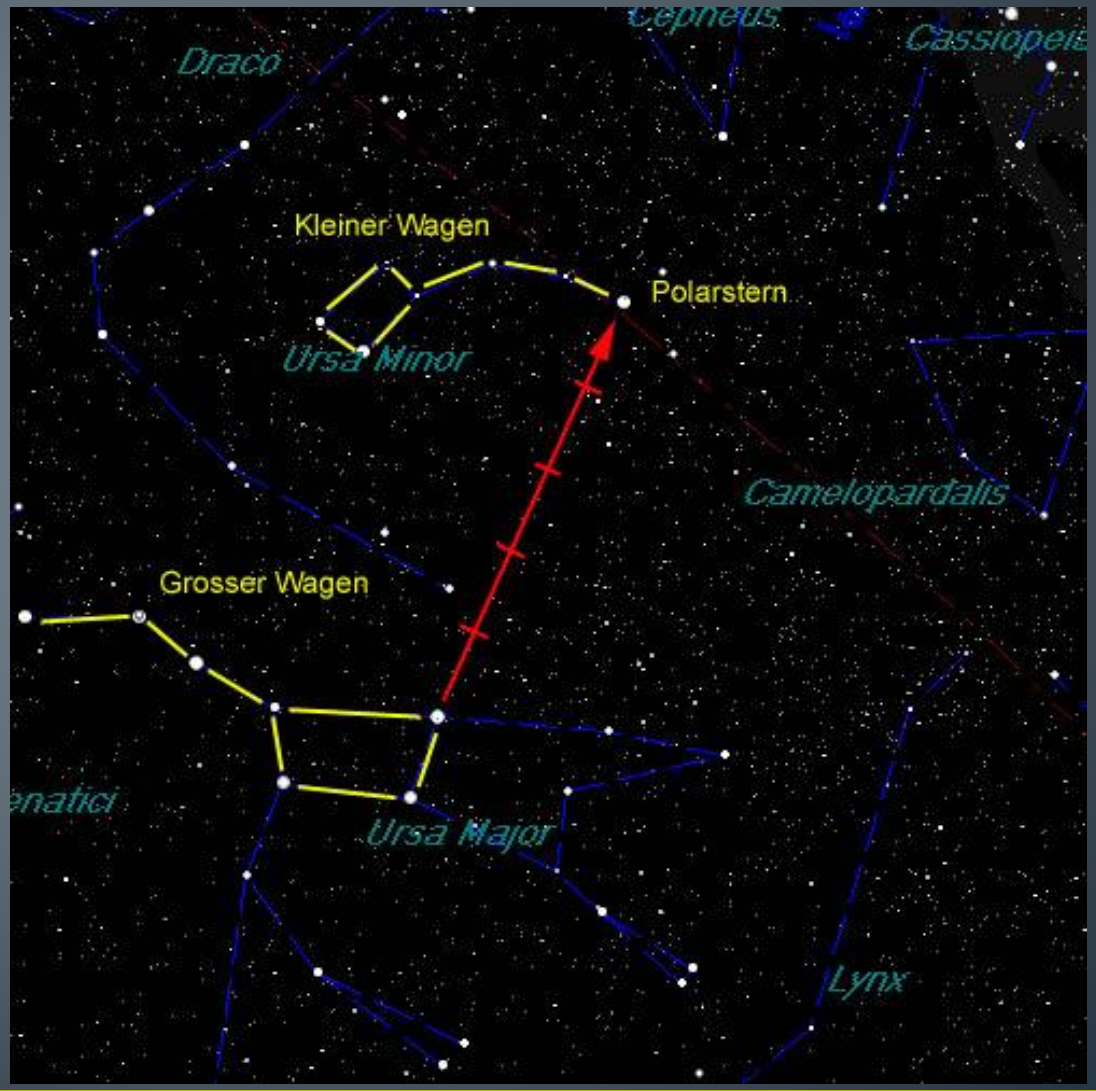


Unsere Galaxis enthält ca. 1 Milliarde Sonnen und hat einen Durchmesser von 100.000 Lj. Im Universum ist sie aber nur eine von 100 Milliarden Galaxien.

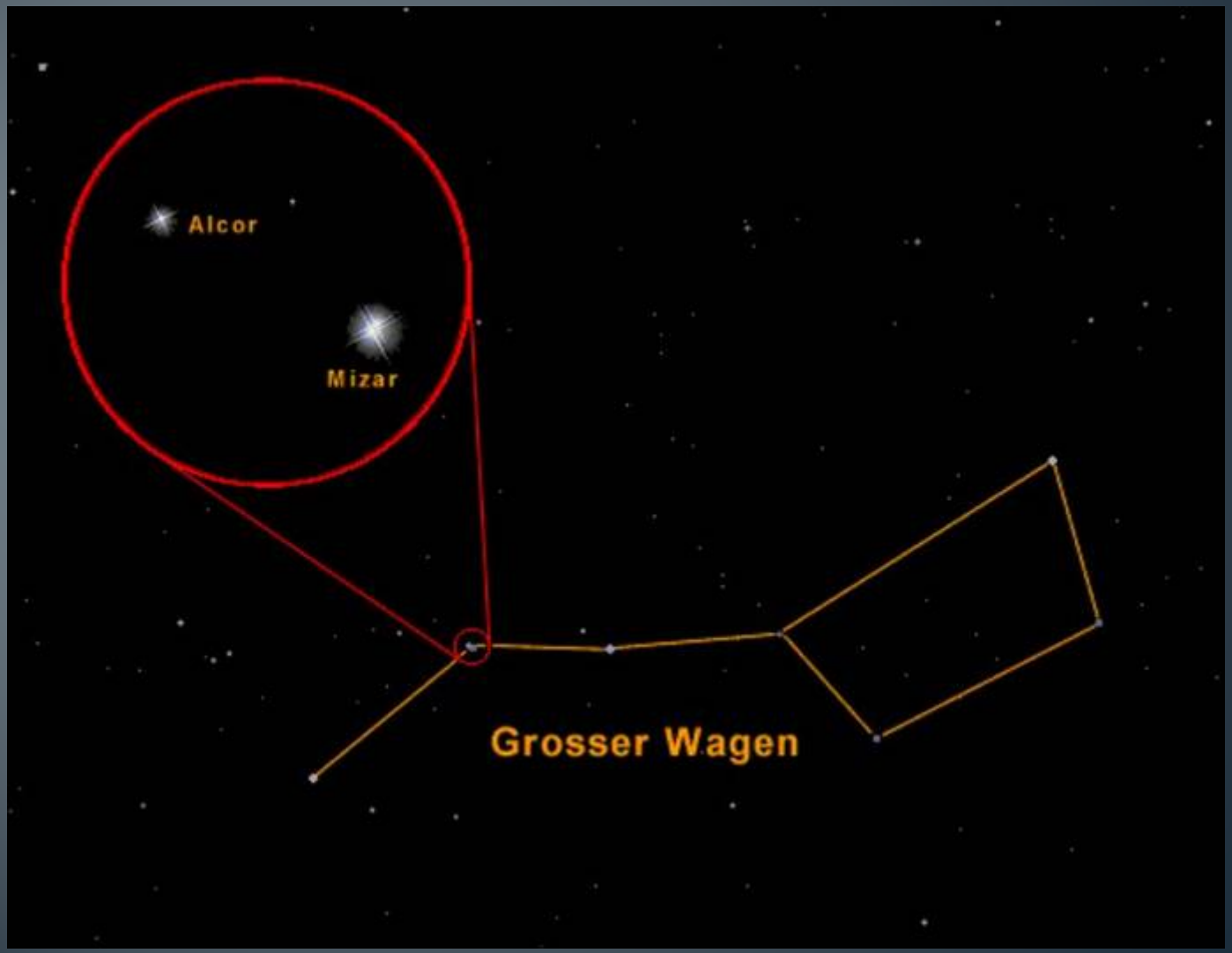




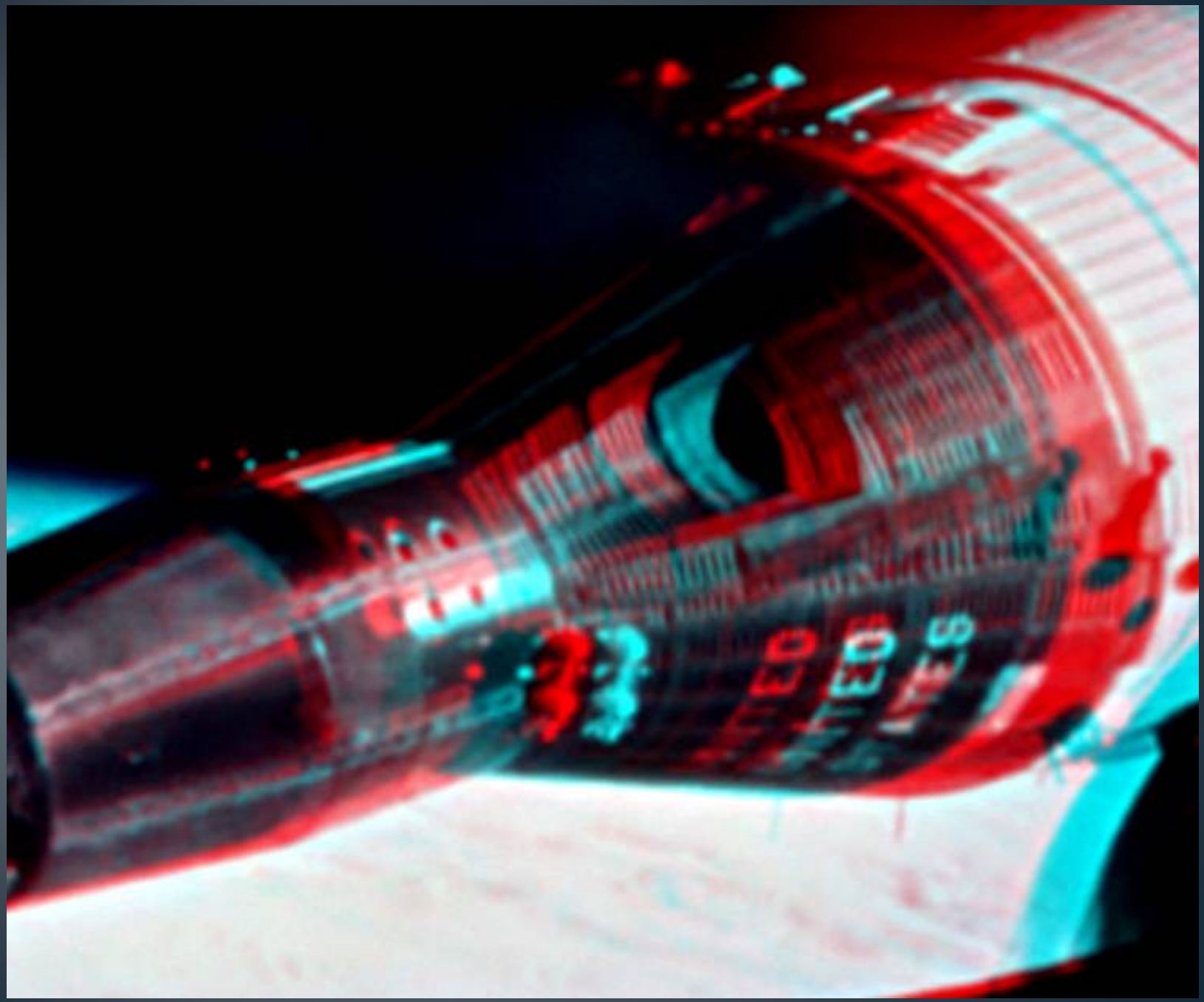
Finde den Polarstern, damit wird die Nordrichtung bestimmt.

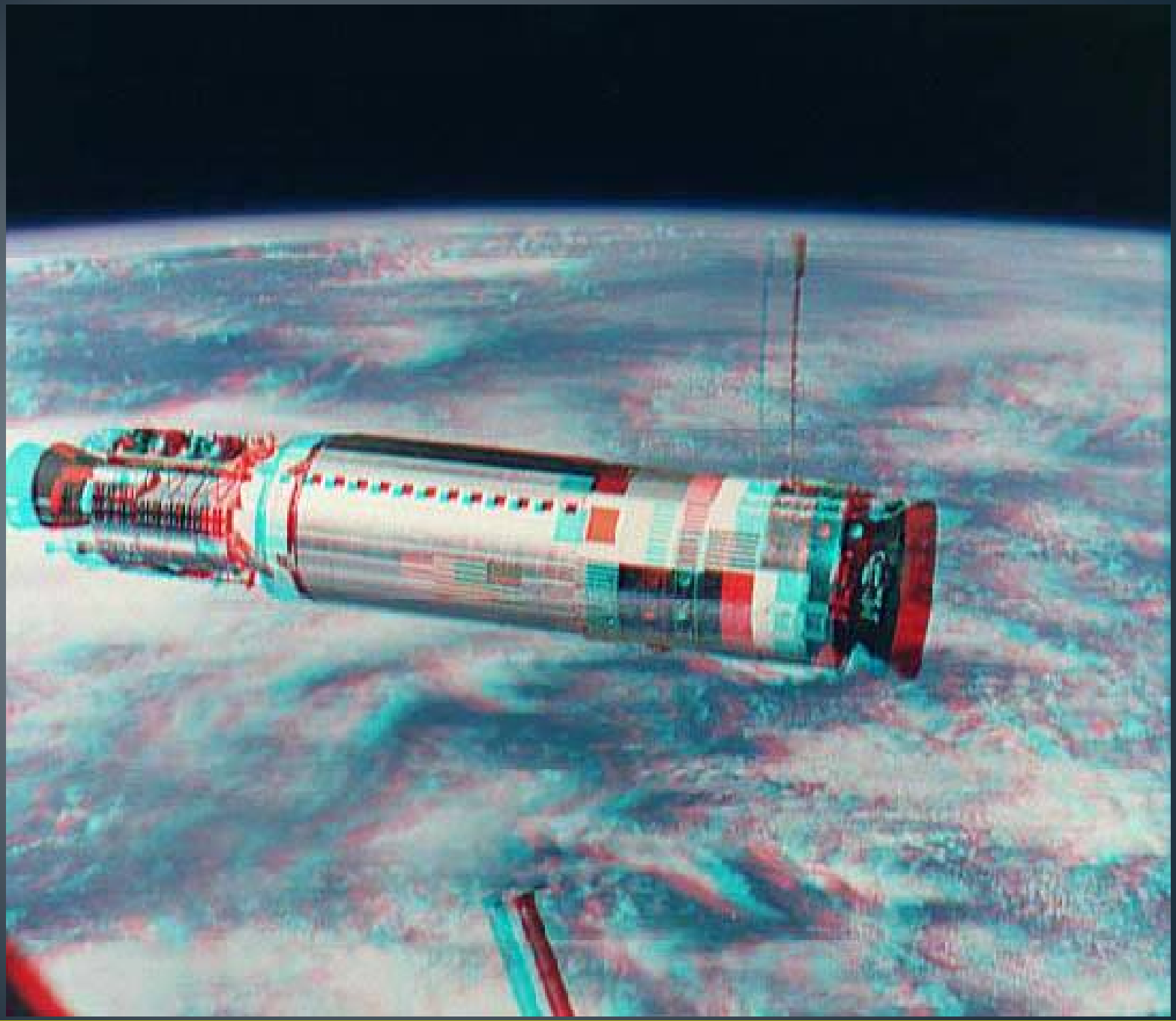


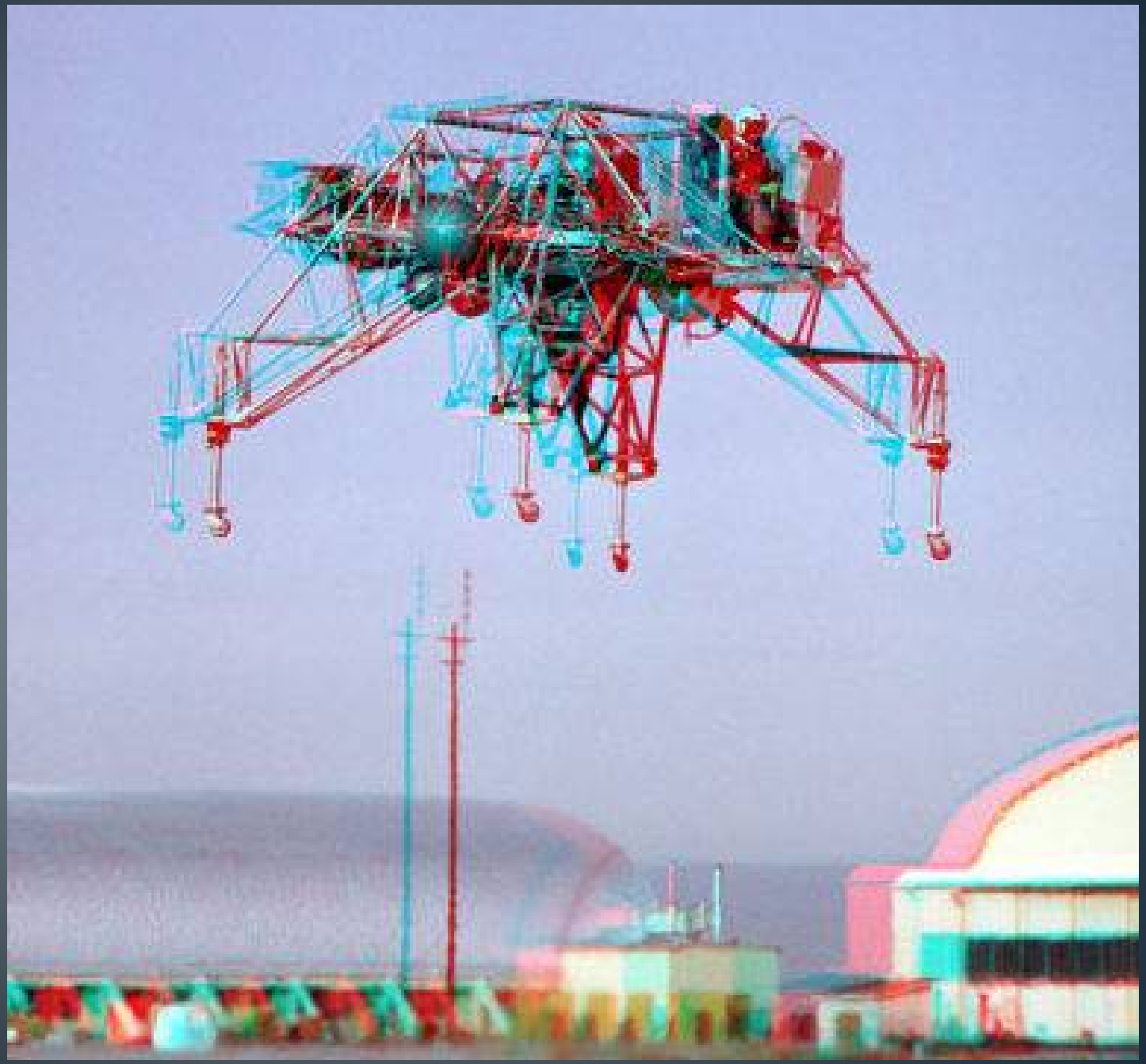
Mizar und Alcor die Augenprüfer.

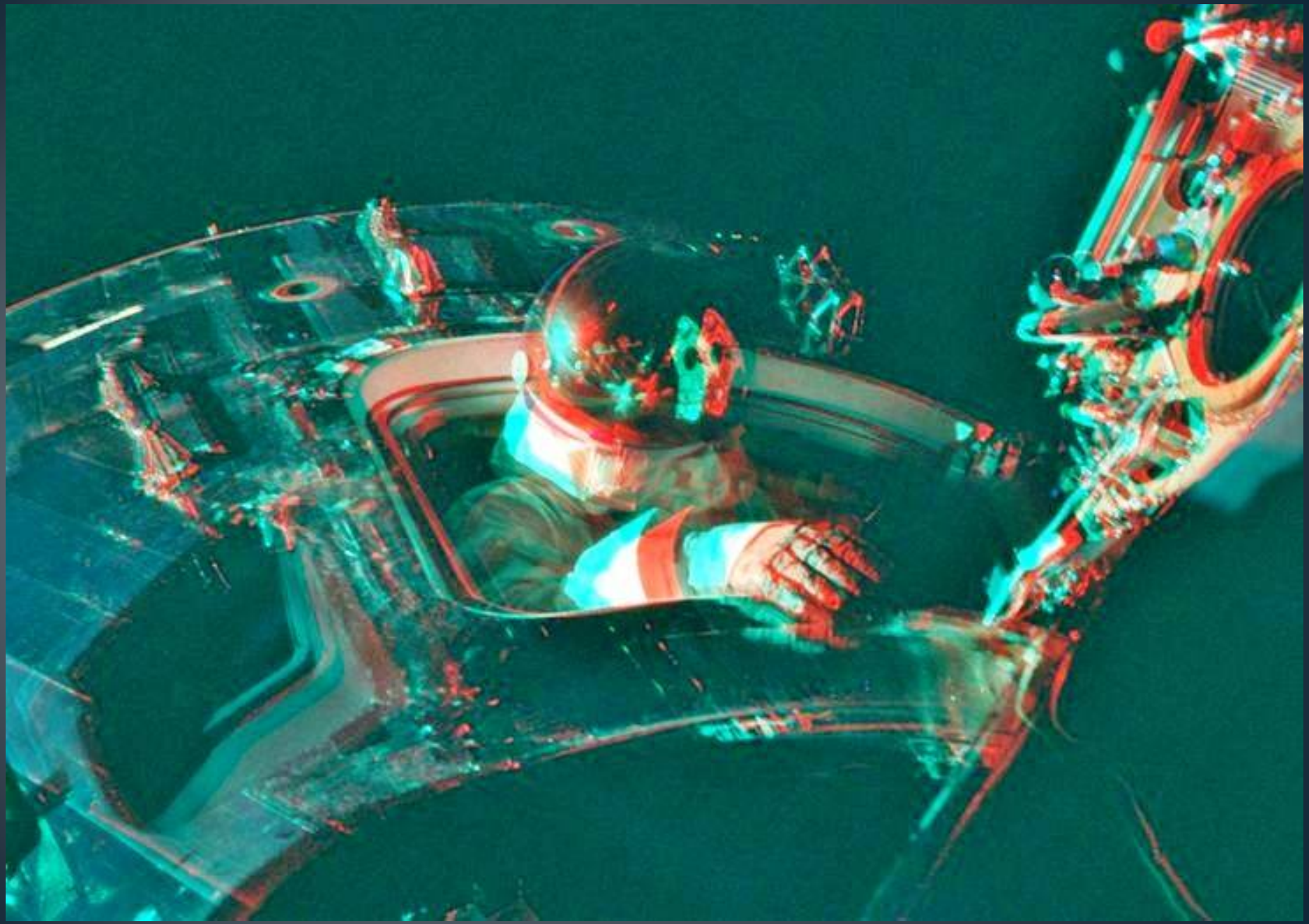


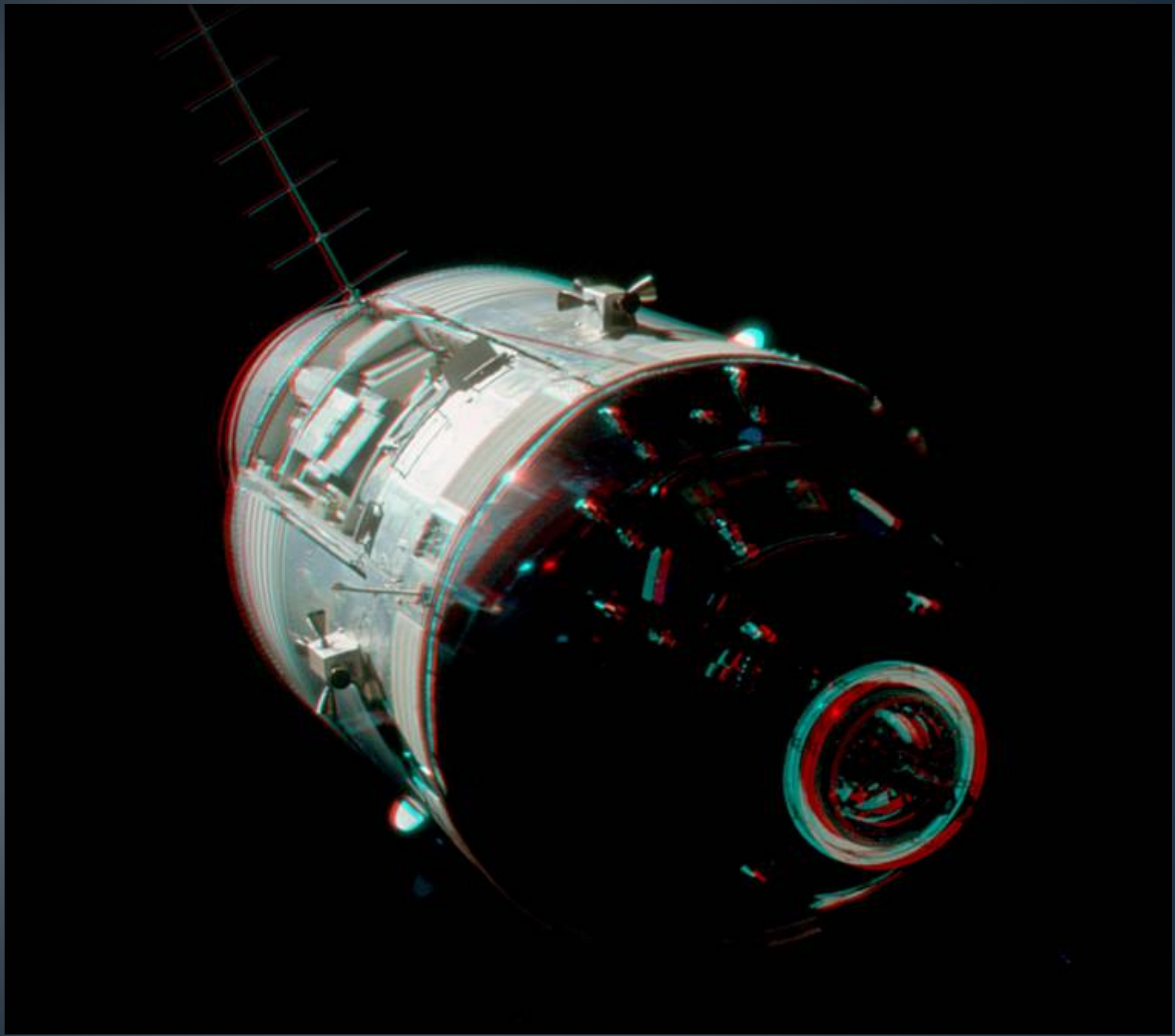
Mit den Mondlandungen der USA begann die Weltraumfahrt.



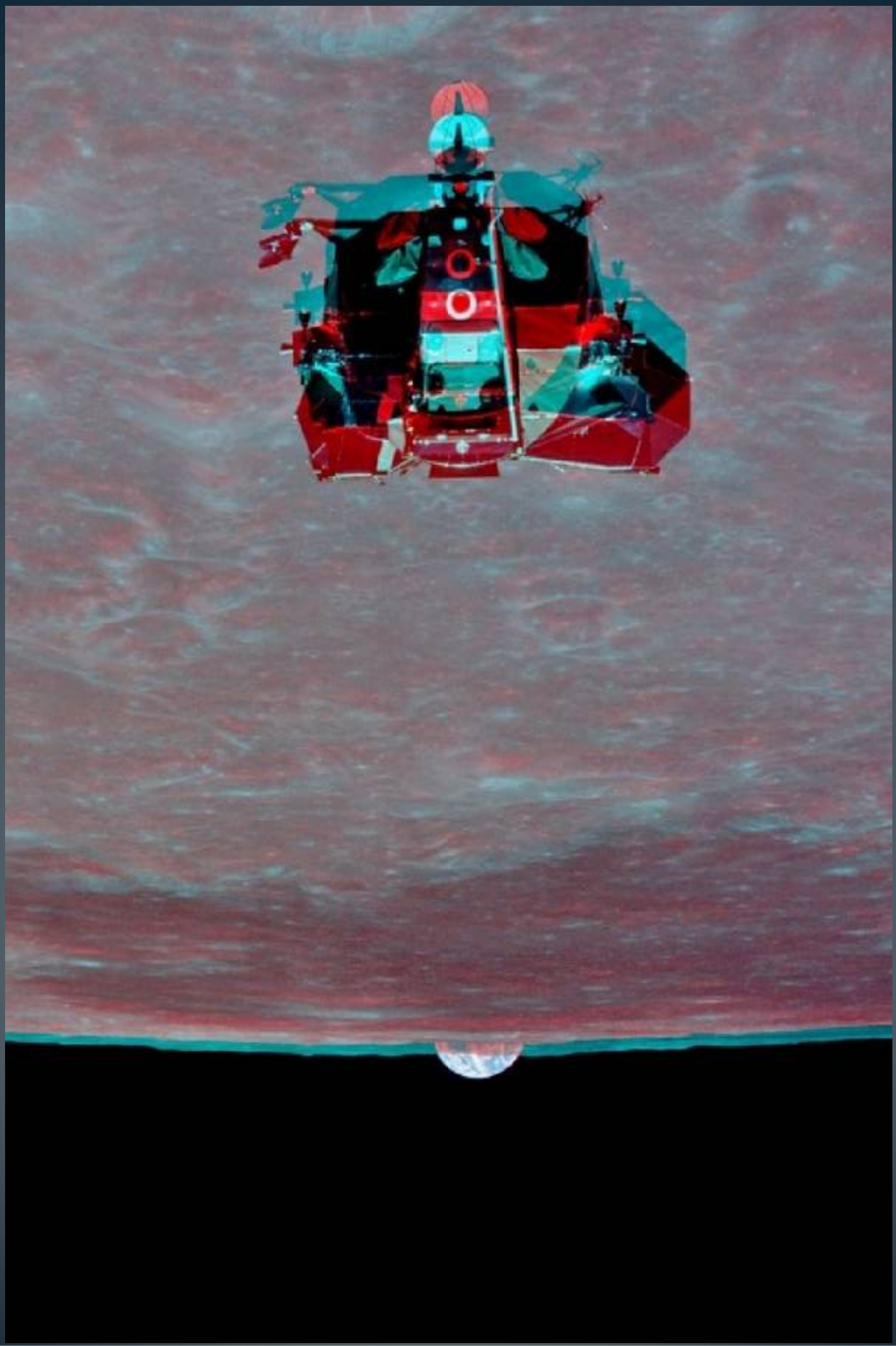


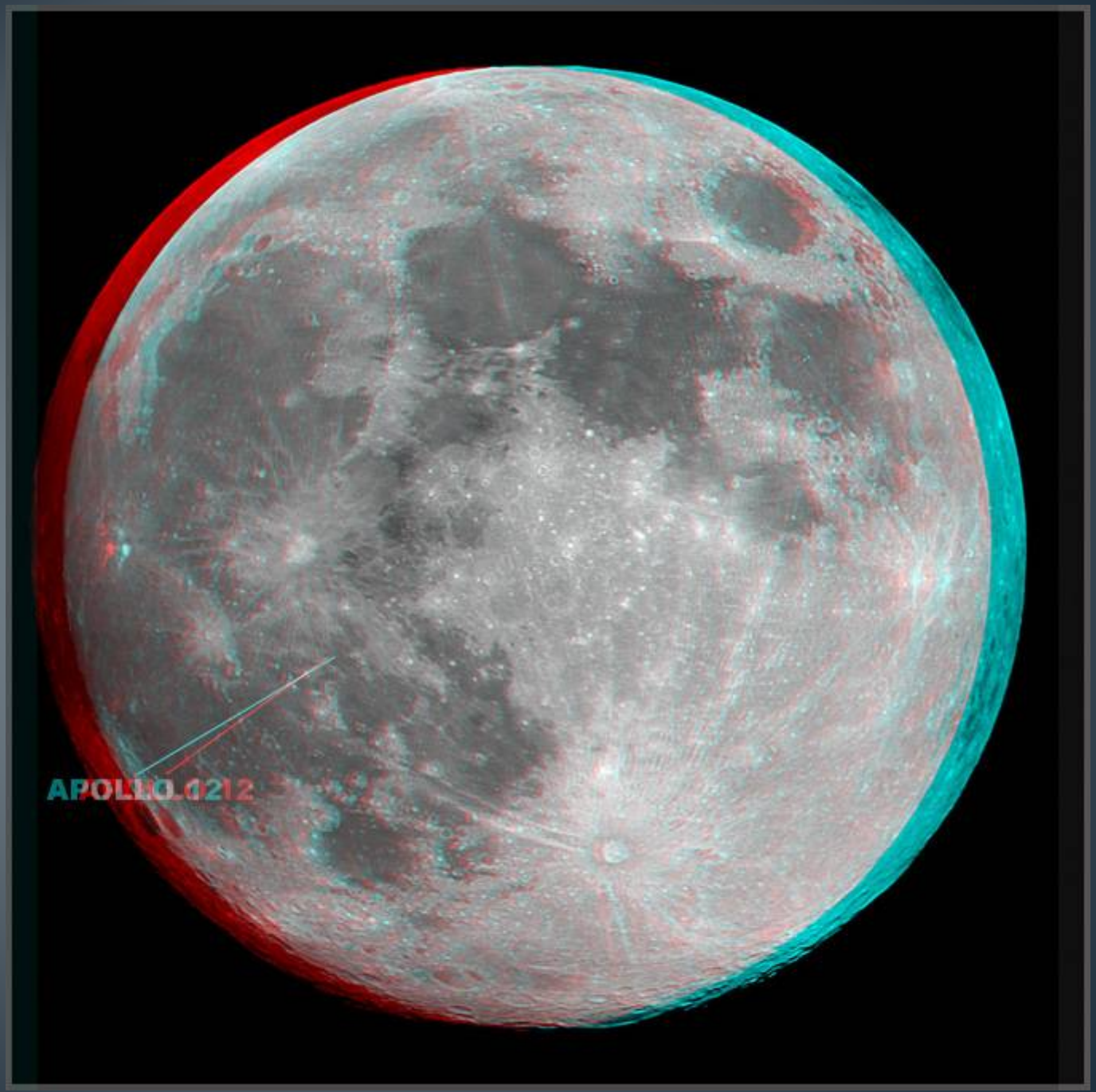


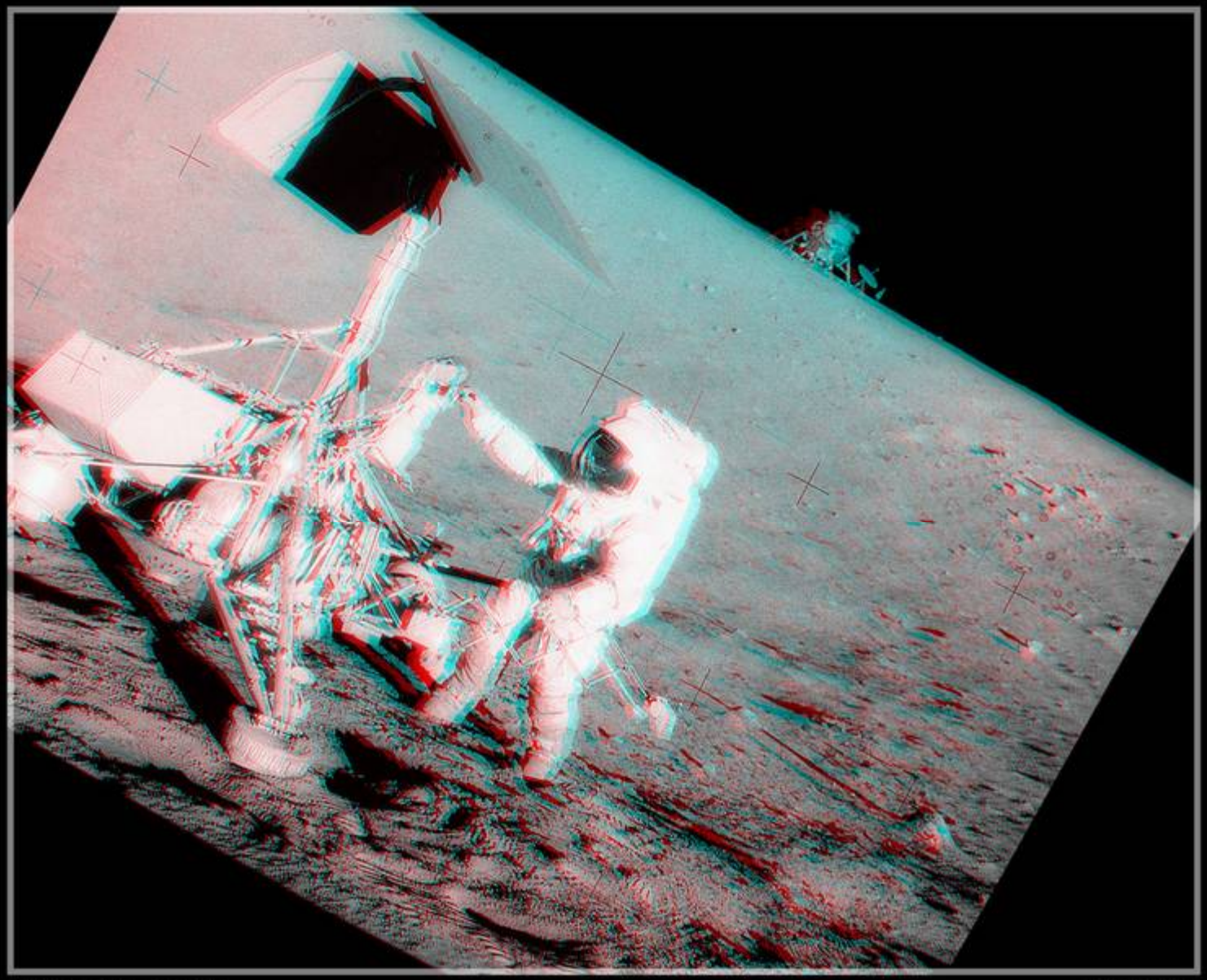




ARMSTRONG




APOLLO 212

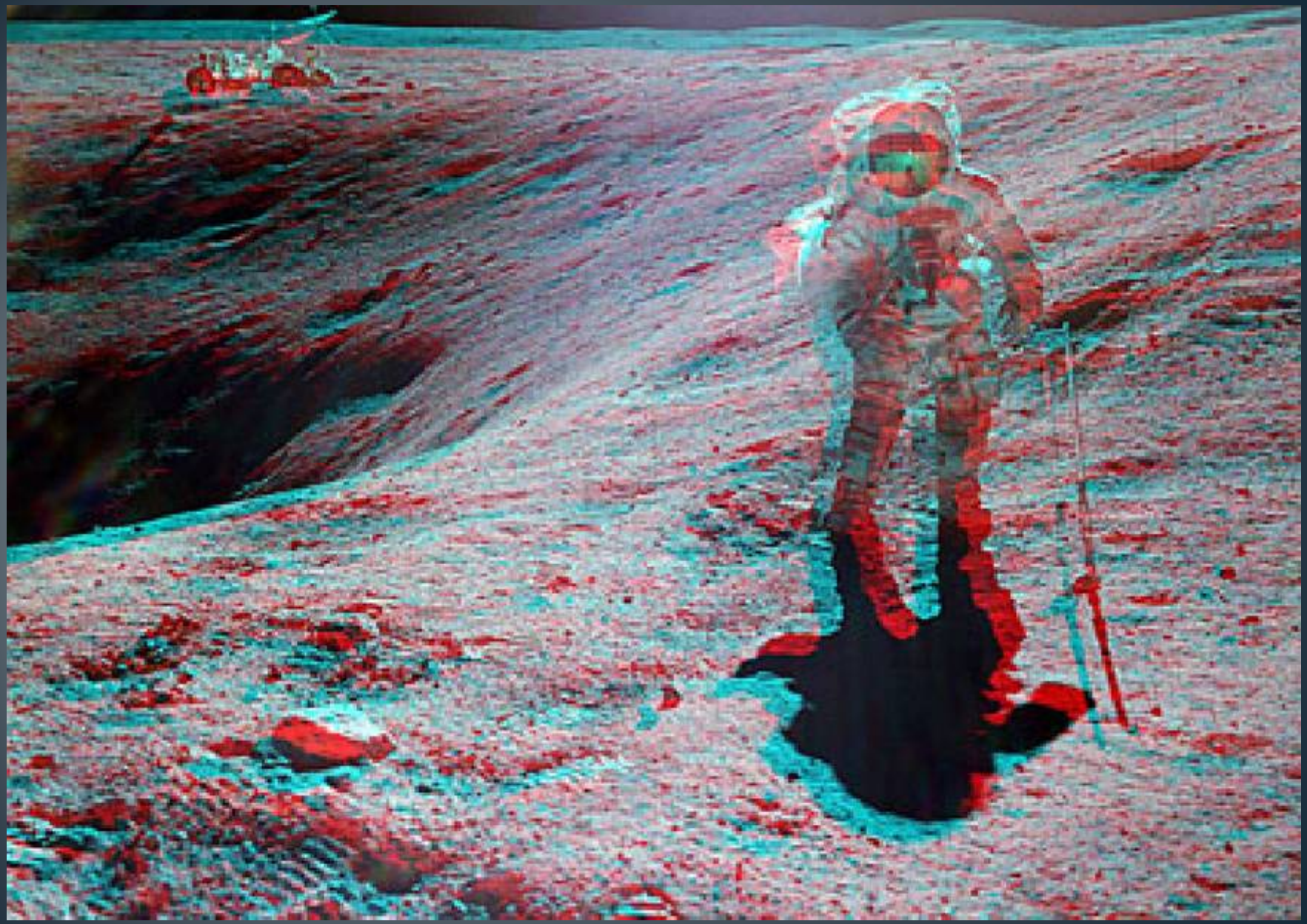


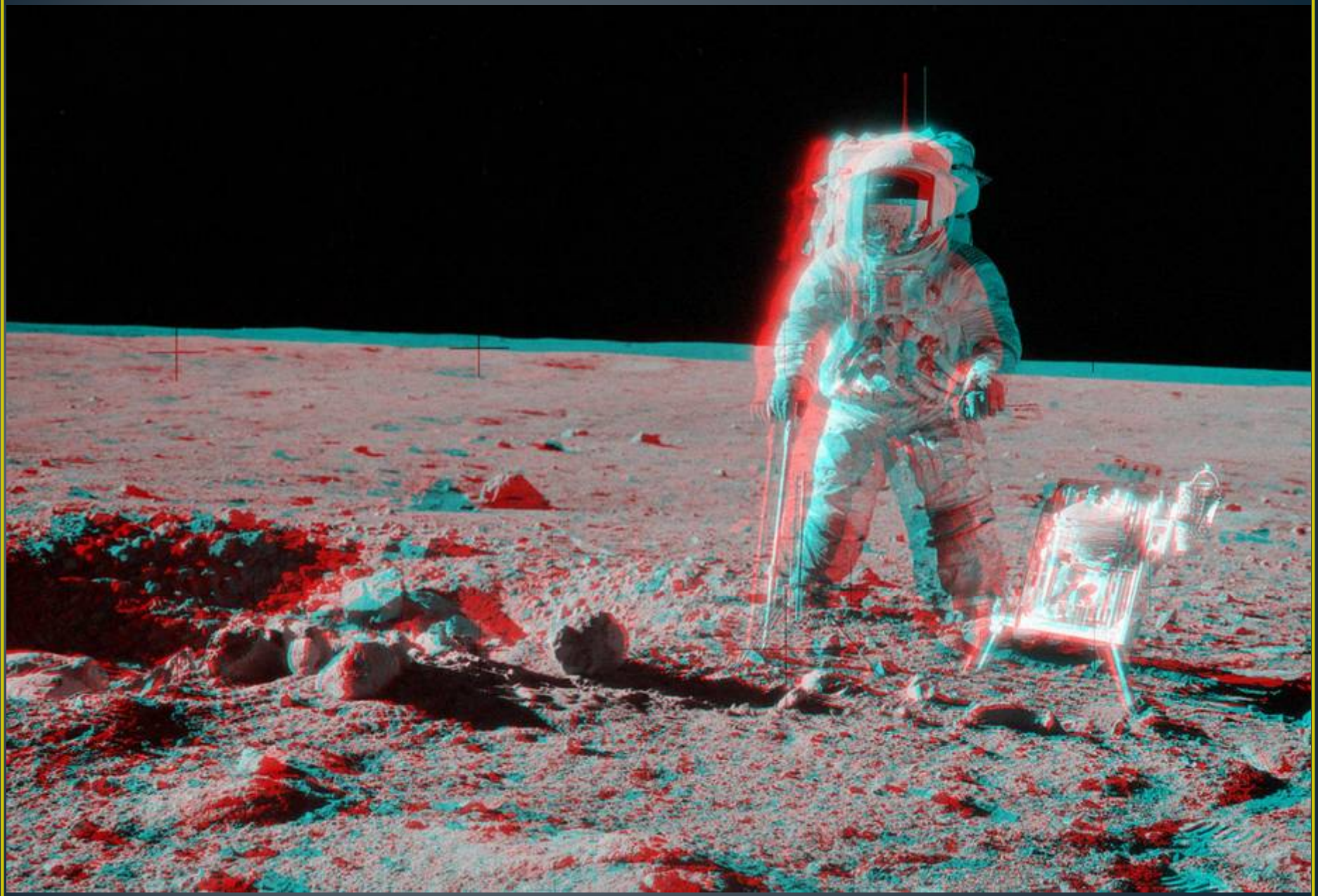
Pete Conrad at the Surveyor III spacecraft

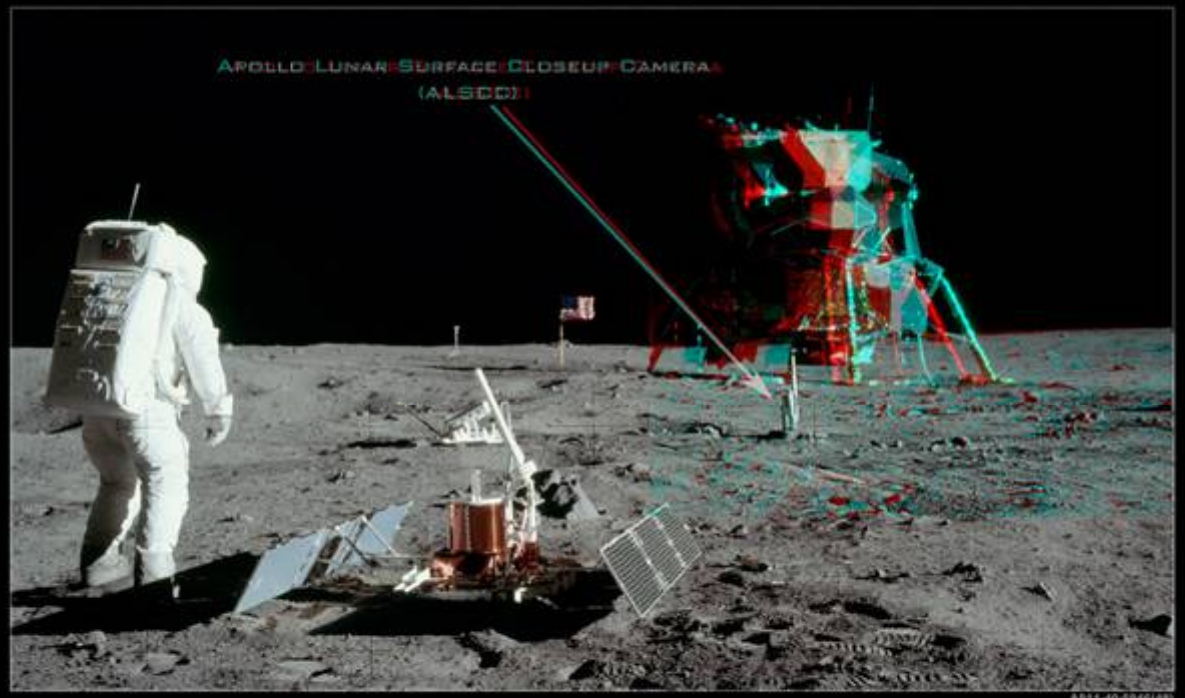
AS12-48-7133(134)

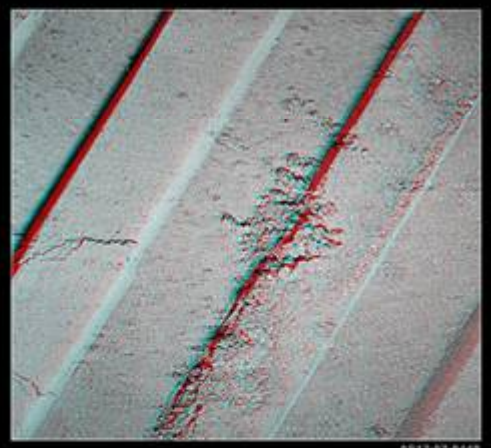
APOLLO - 12

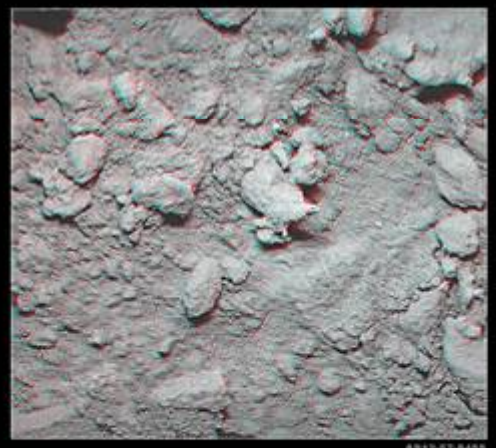
Stereo by Patrick Vantuyne





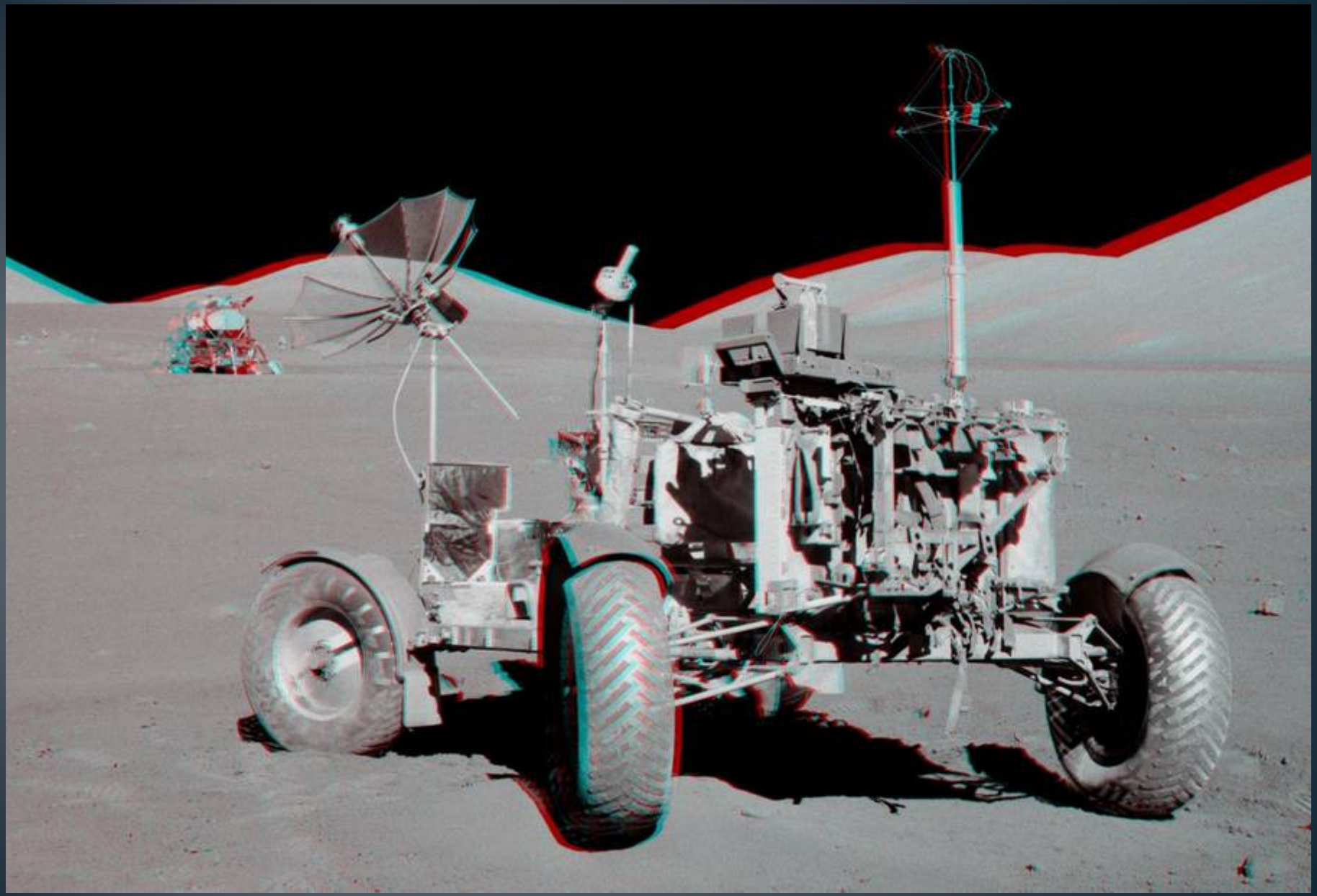


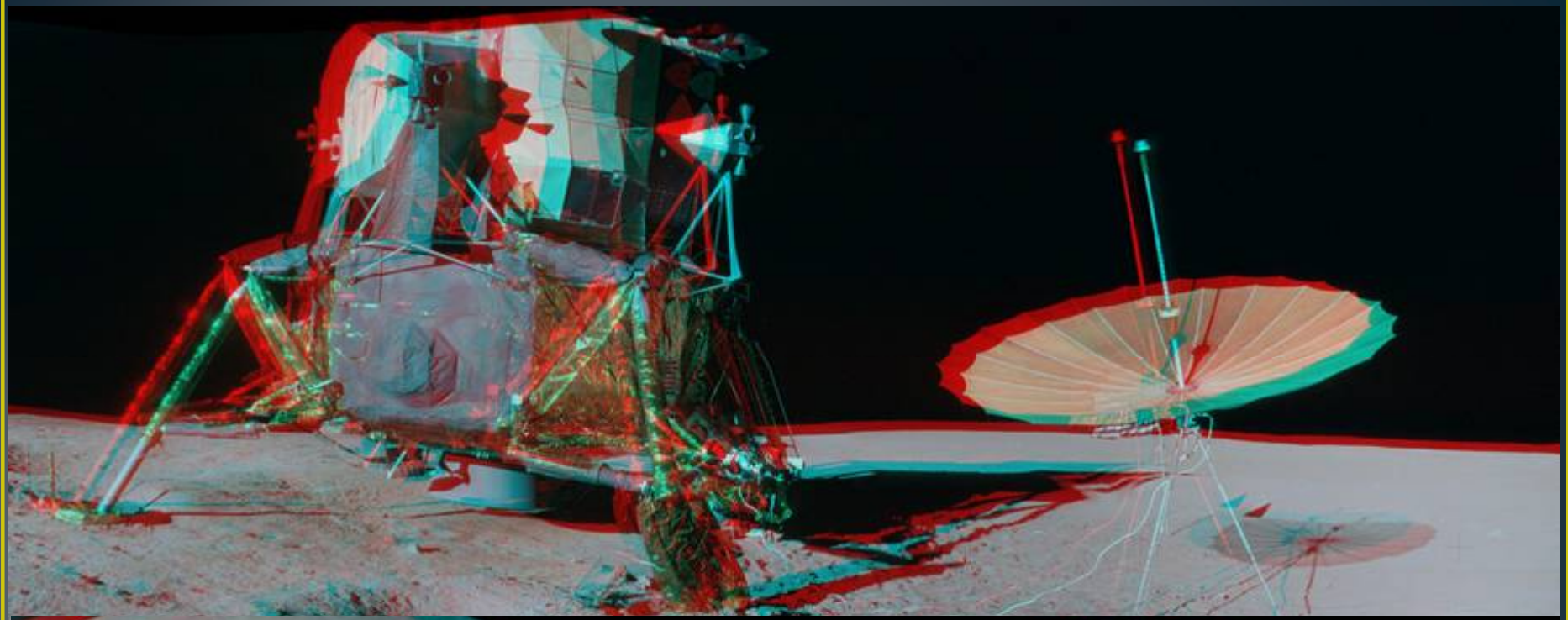


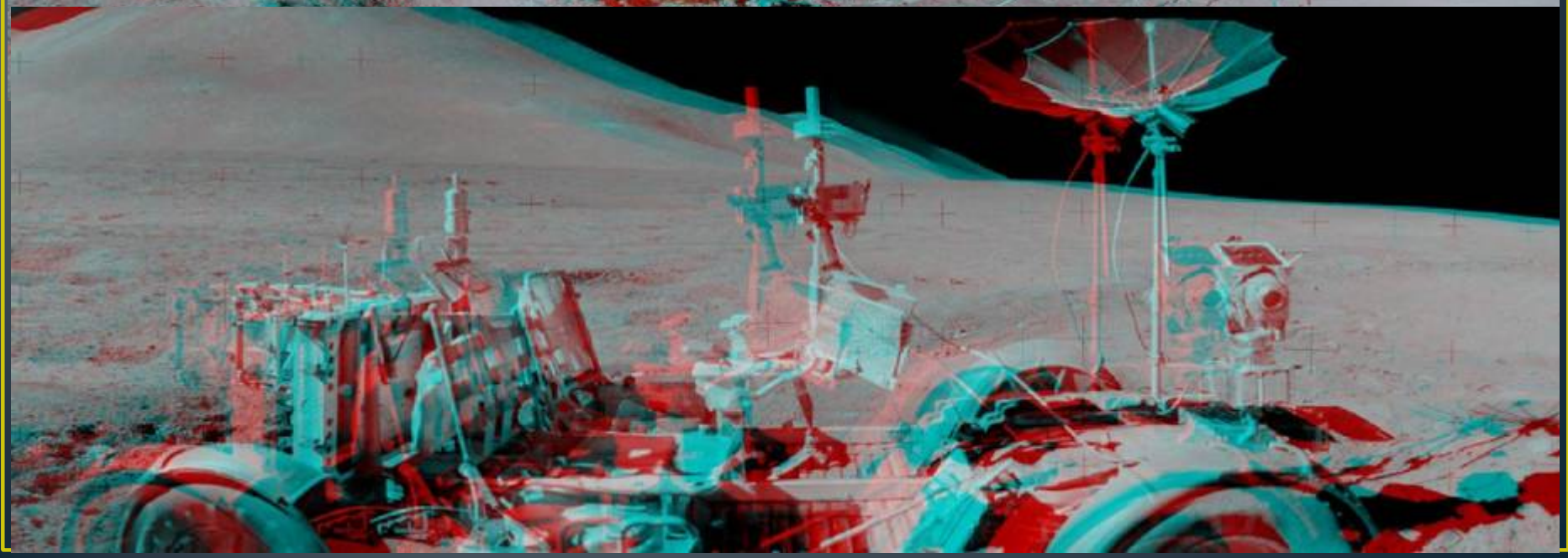


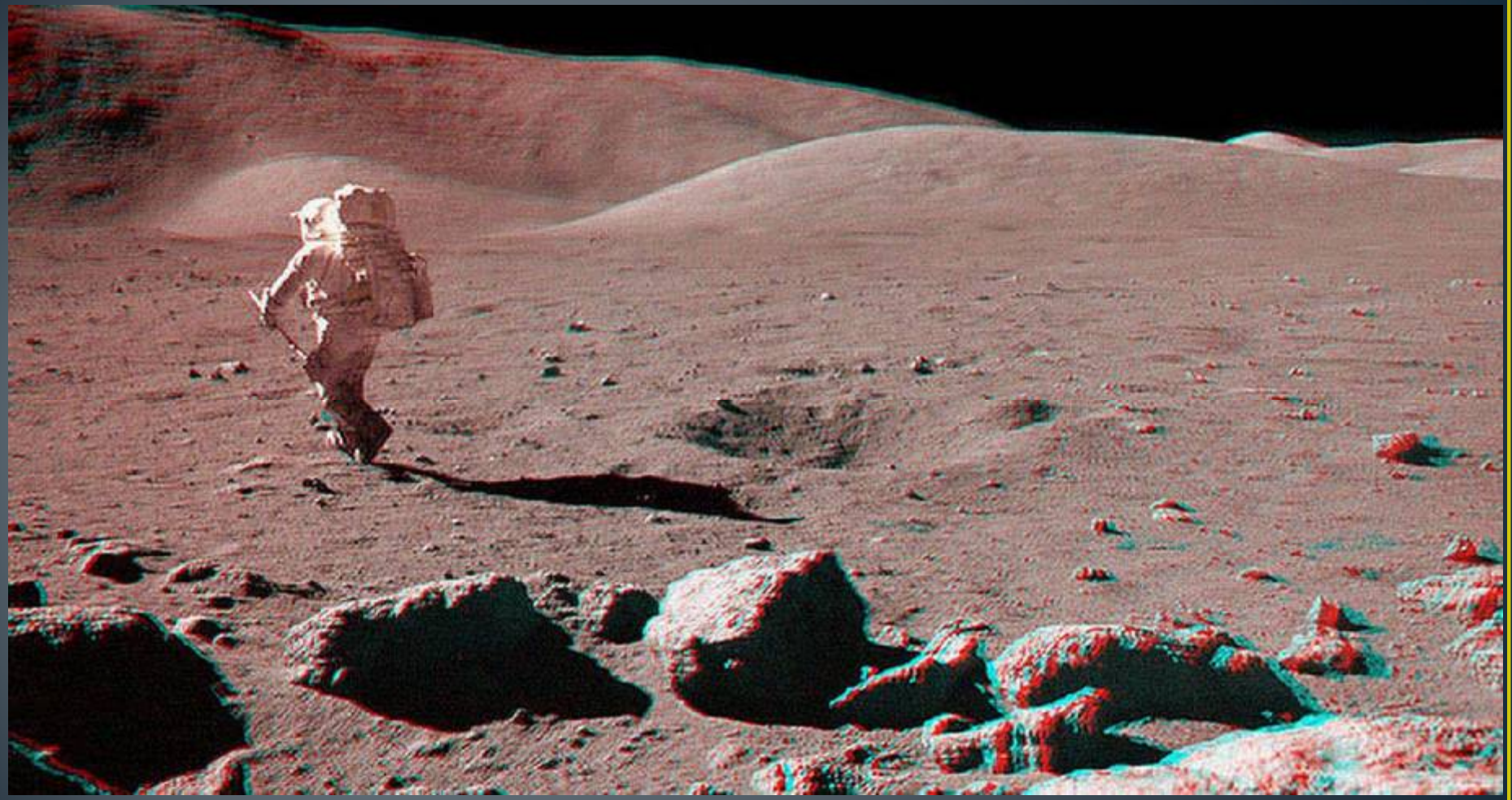
APOLLO STEREO CAMERA

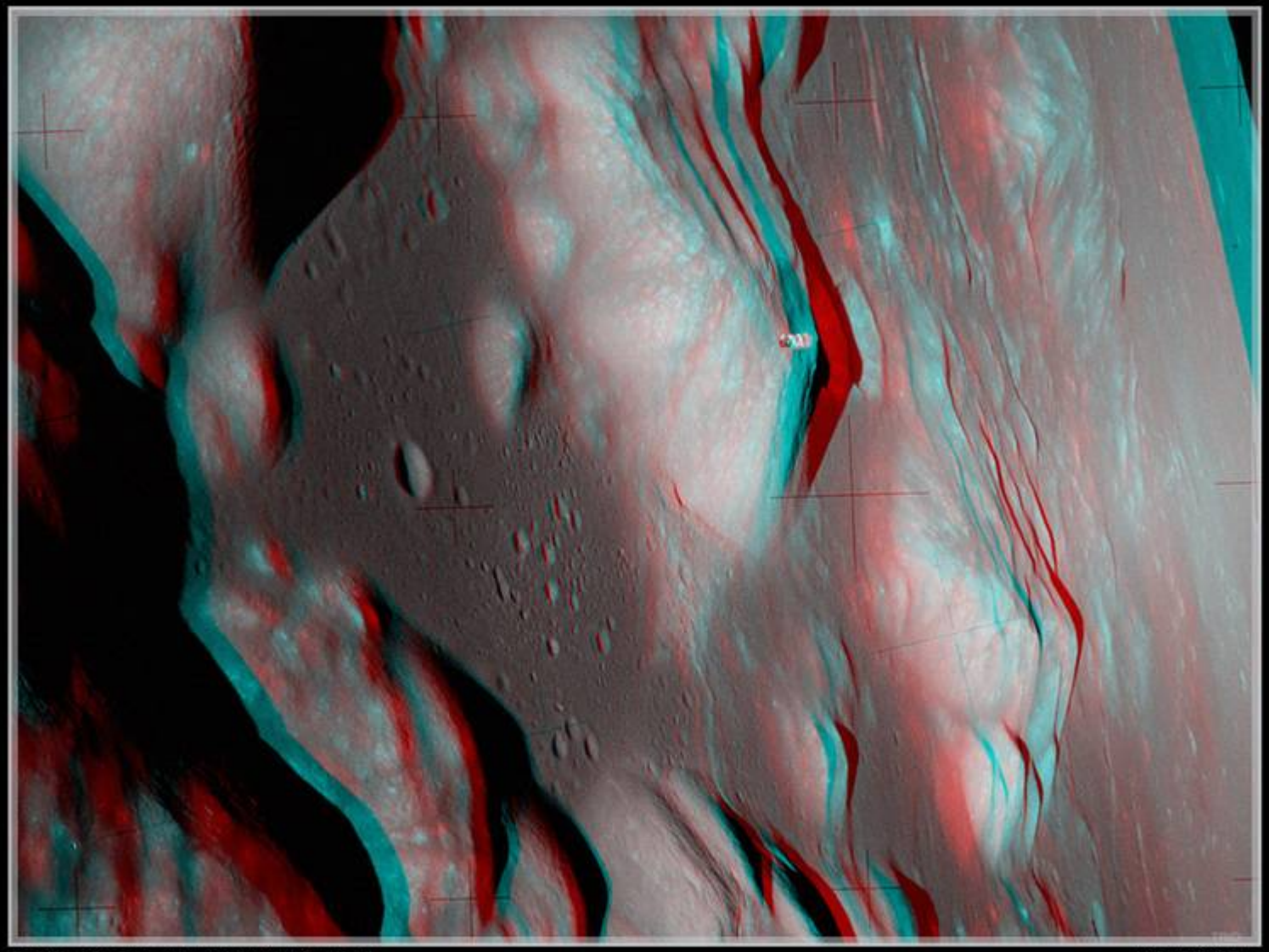
Stereo by Patrick Vantuyne









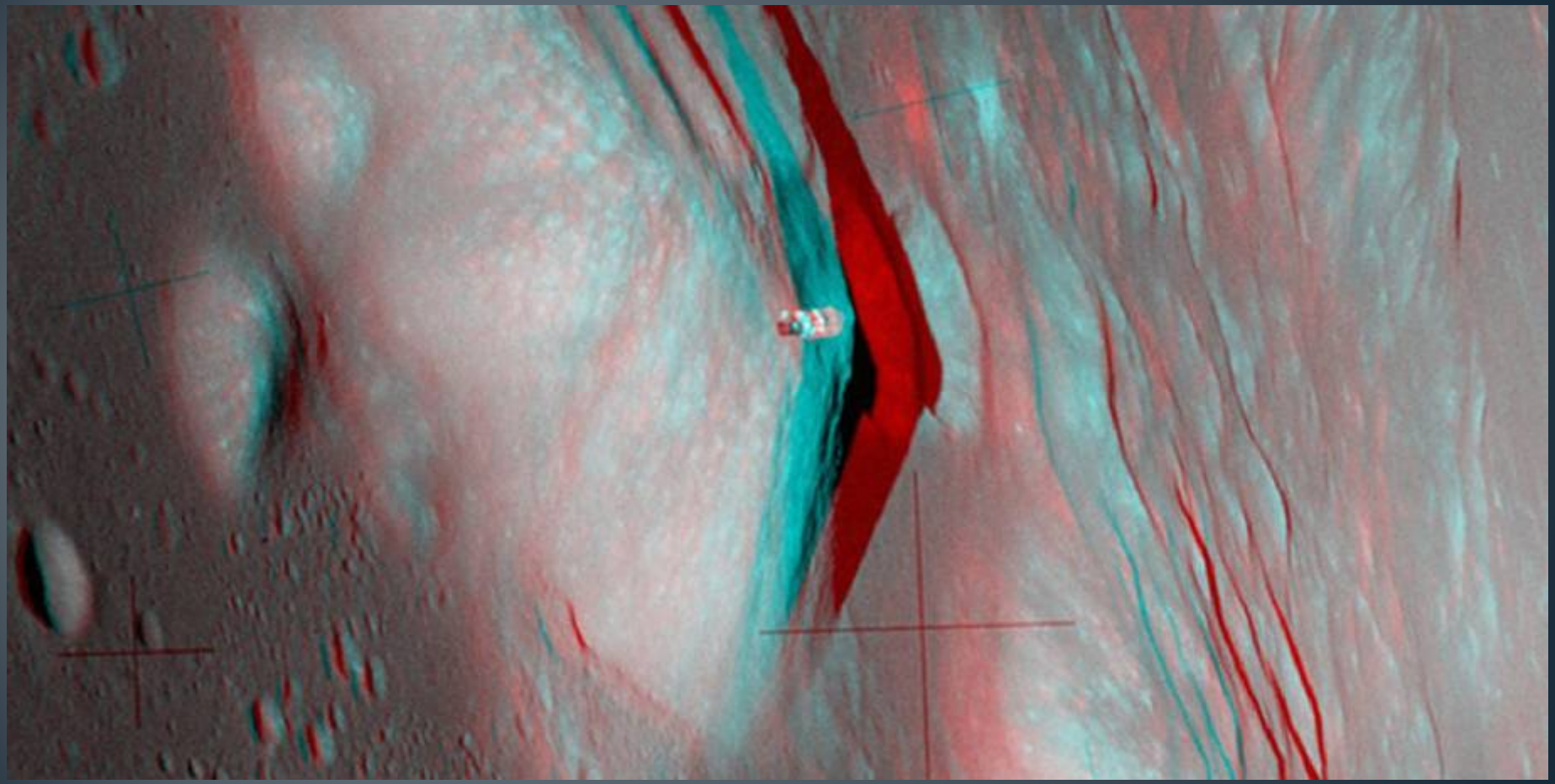


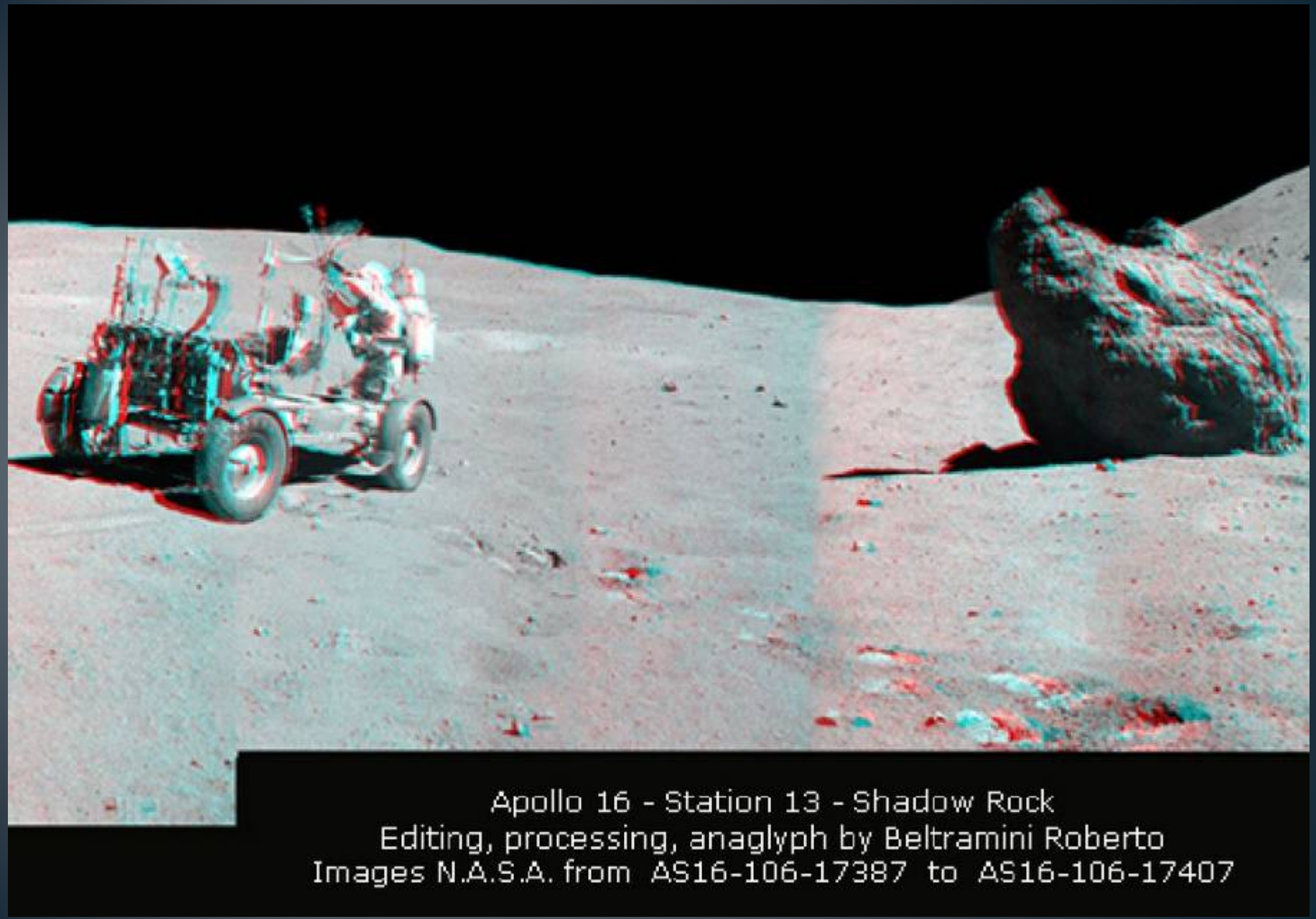
The CSM with Ron Evans can be seen in front of the South Massif

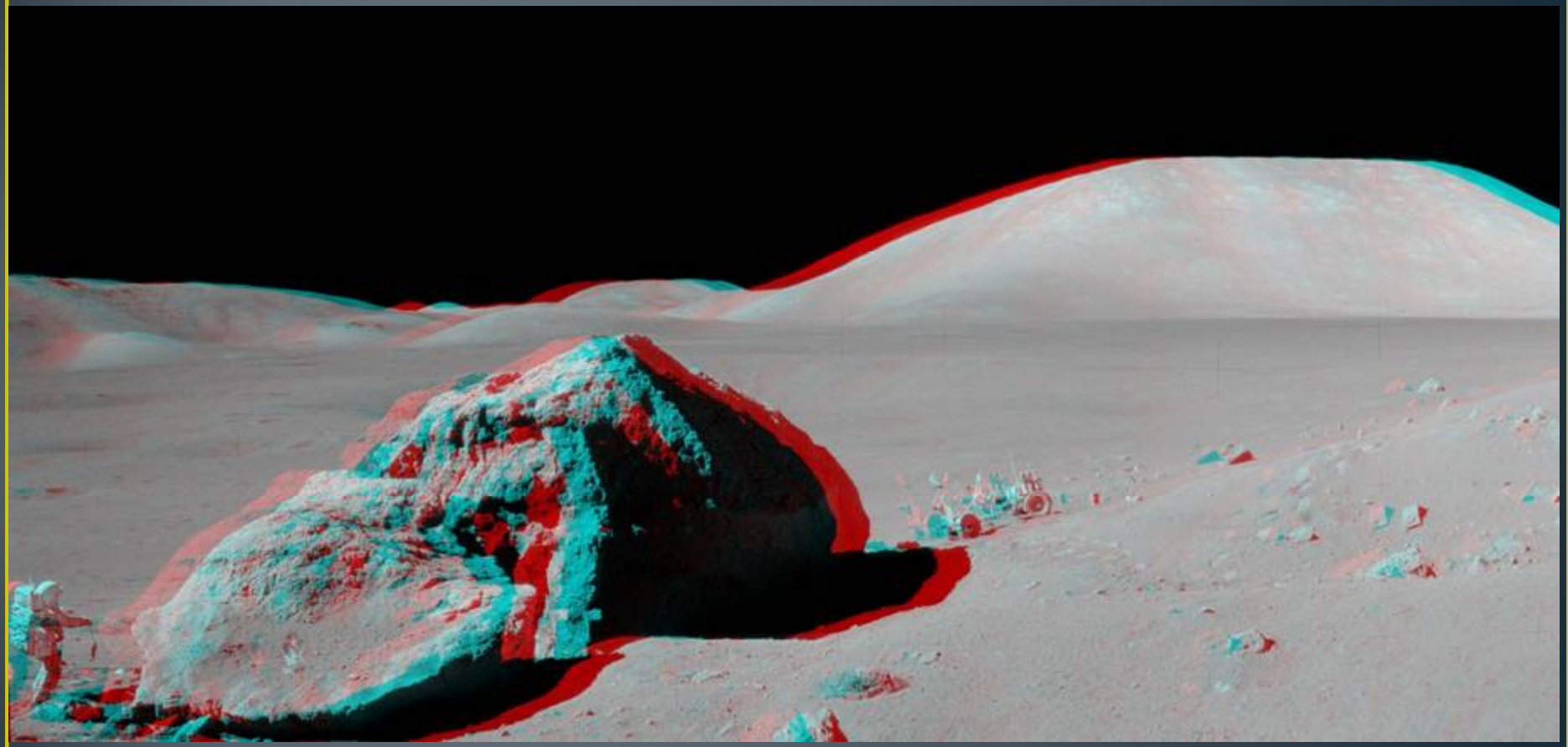
AS17-147-22466(7)

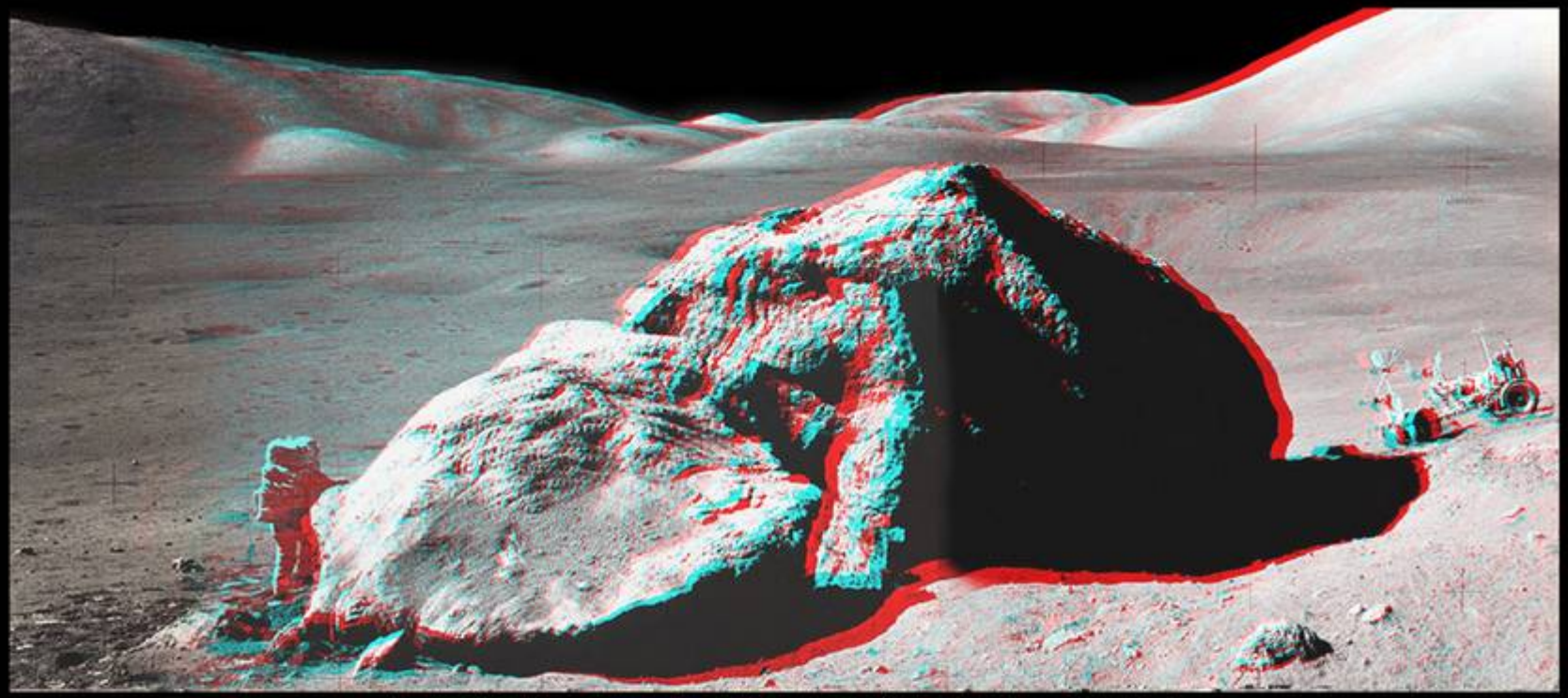
APOLLO - 17

Stereo by Patrick Vantuyne



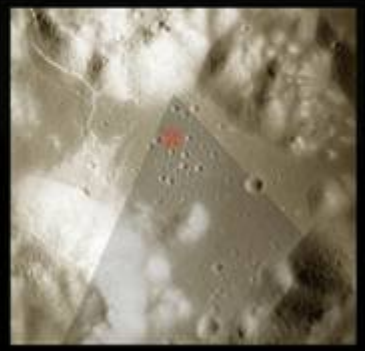

Apollo 16 - Station 13 - Shadow Rock
Editing, processing, anaglyph by Beltramini Roberto
Images N.A.S.A. from AS16-106-17387 to AS16-106-17407

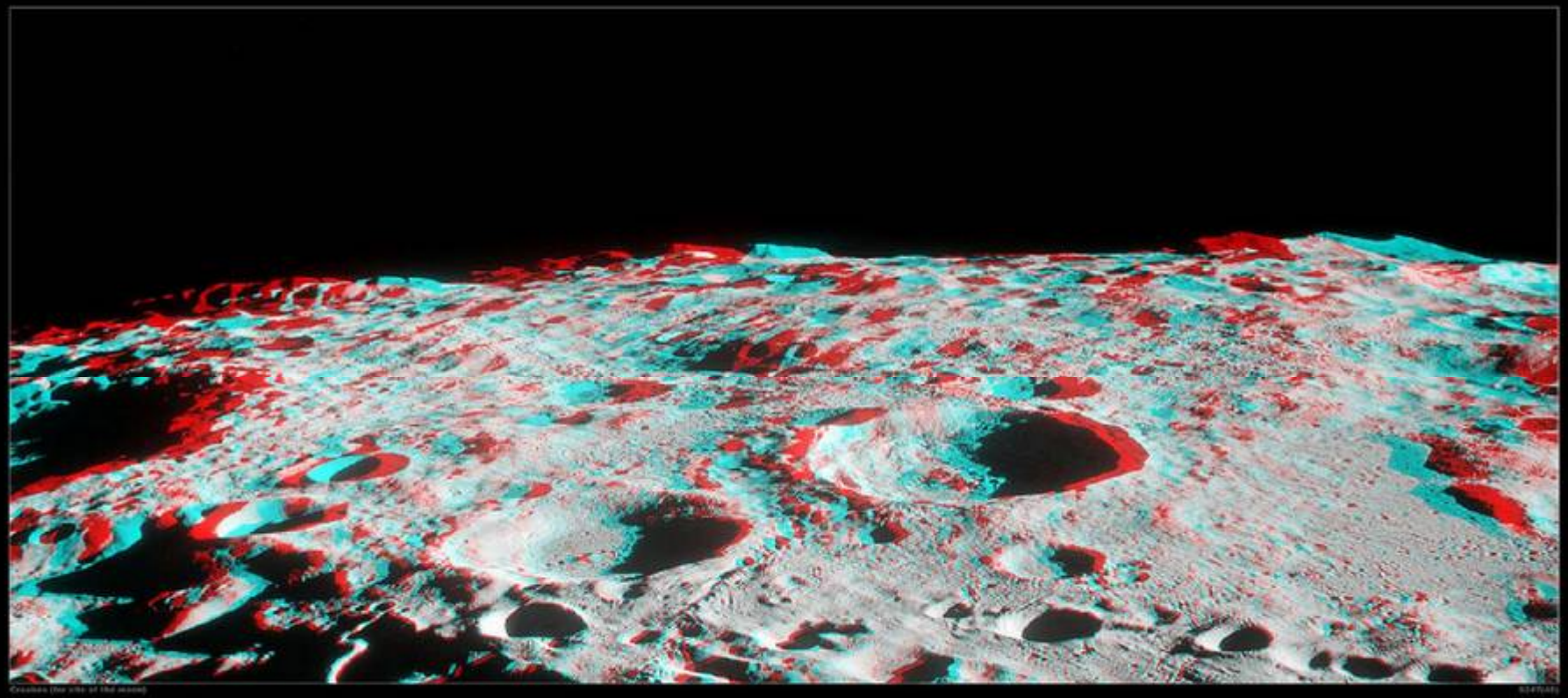




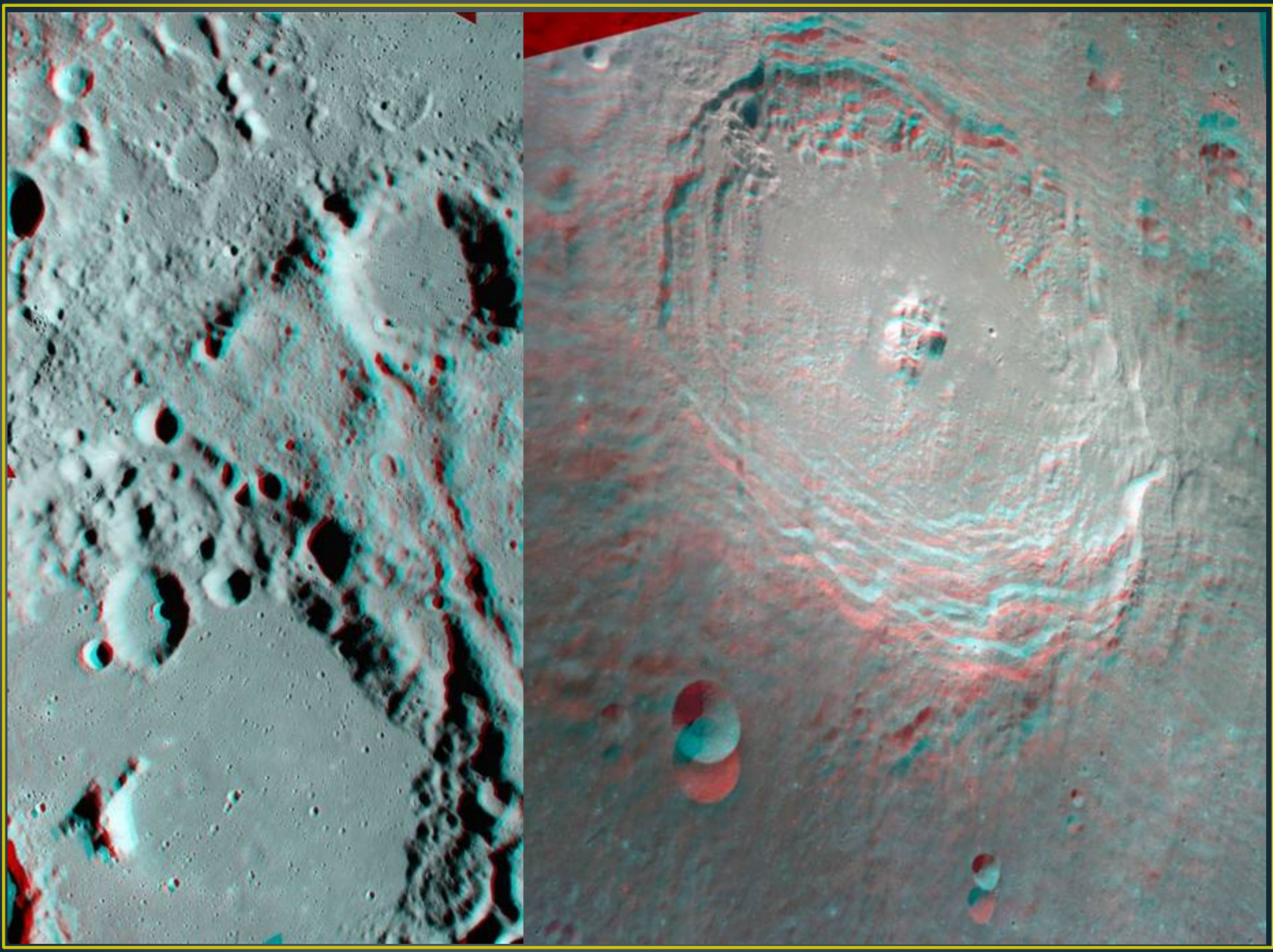
December 14, 1972 - looking south - Jack and Gene at station 6 where Tracy's Rock is resting at the base of the North Massif

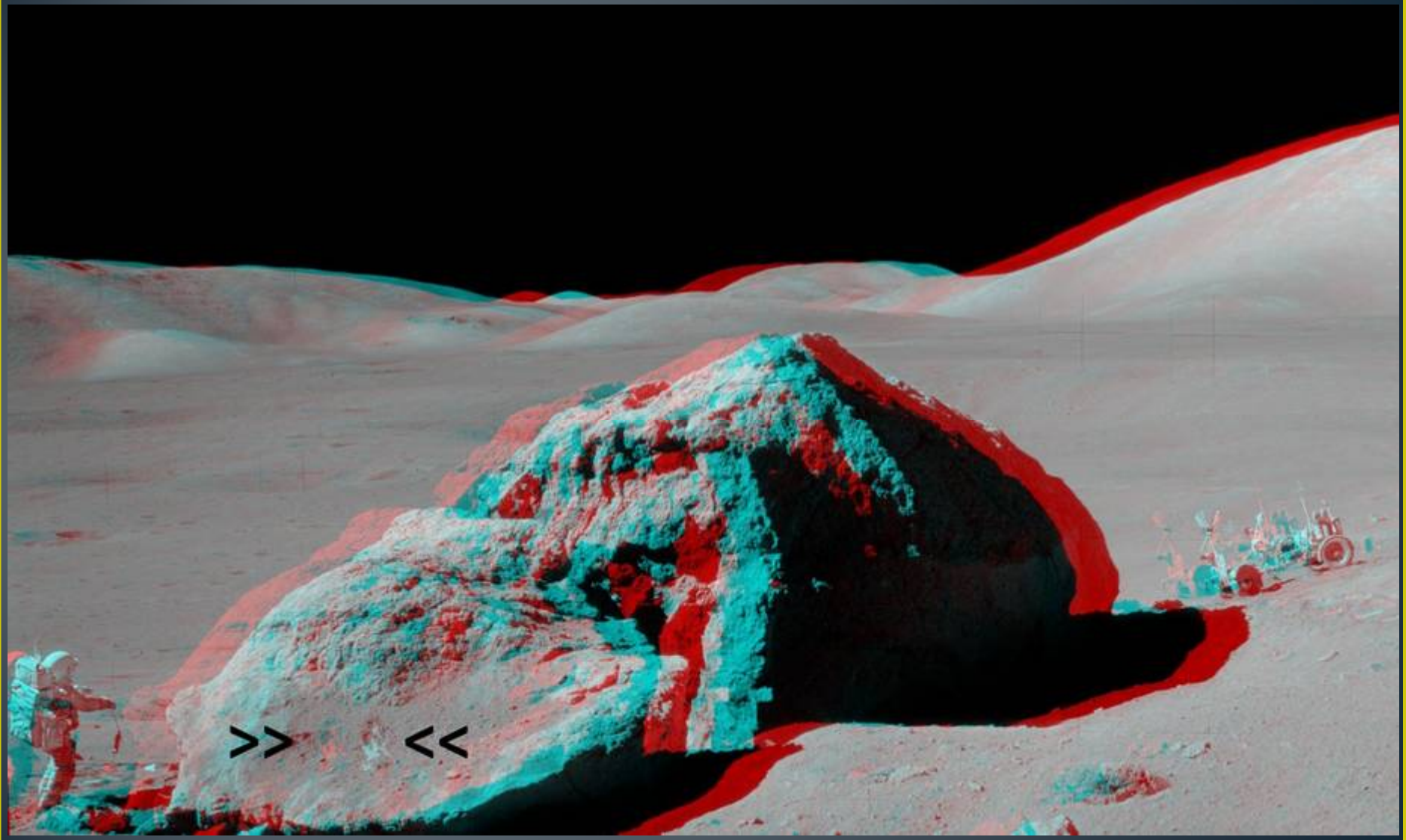
APOLLO-17

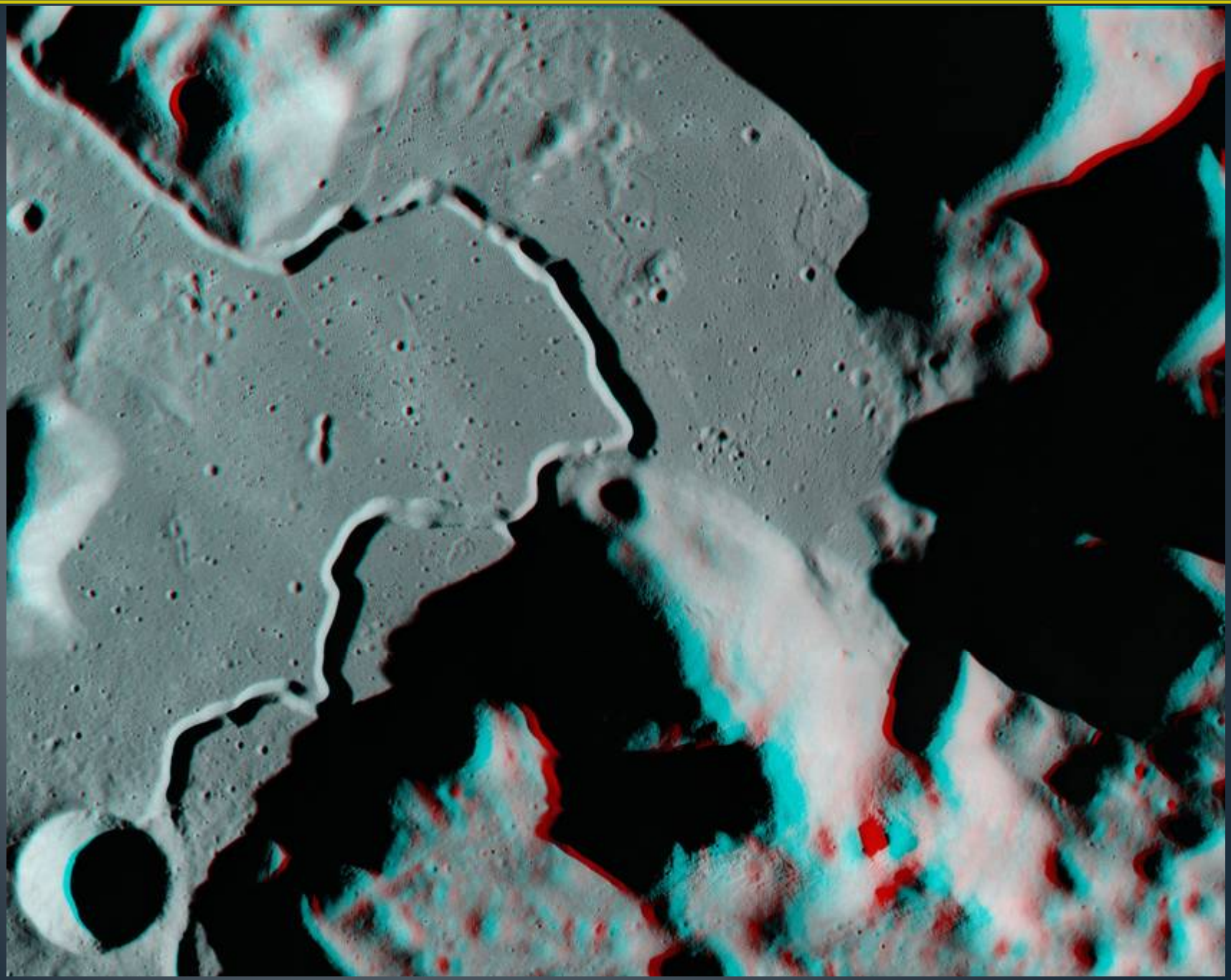


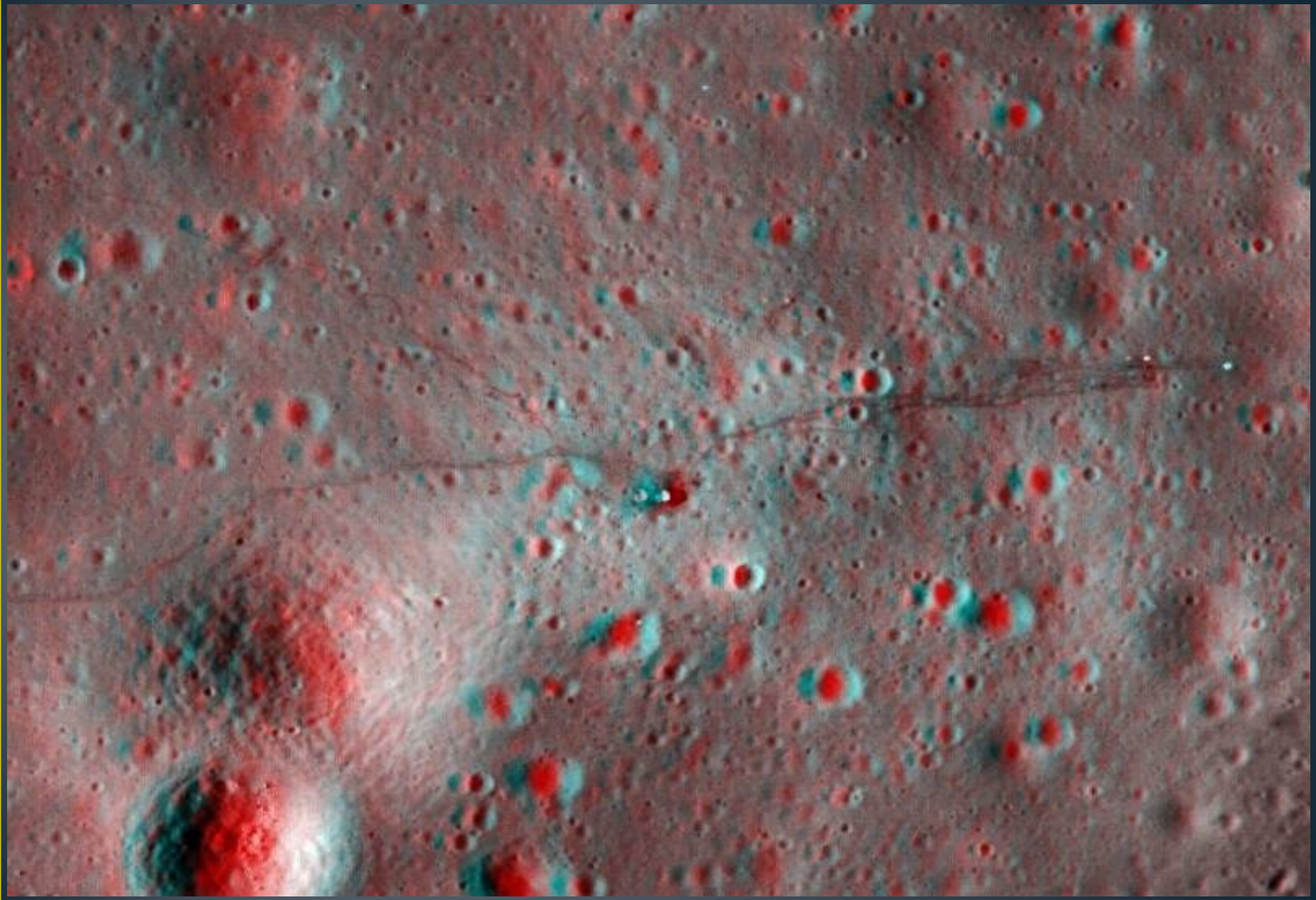


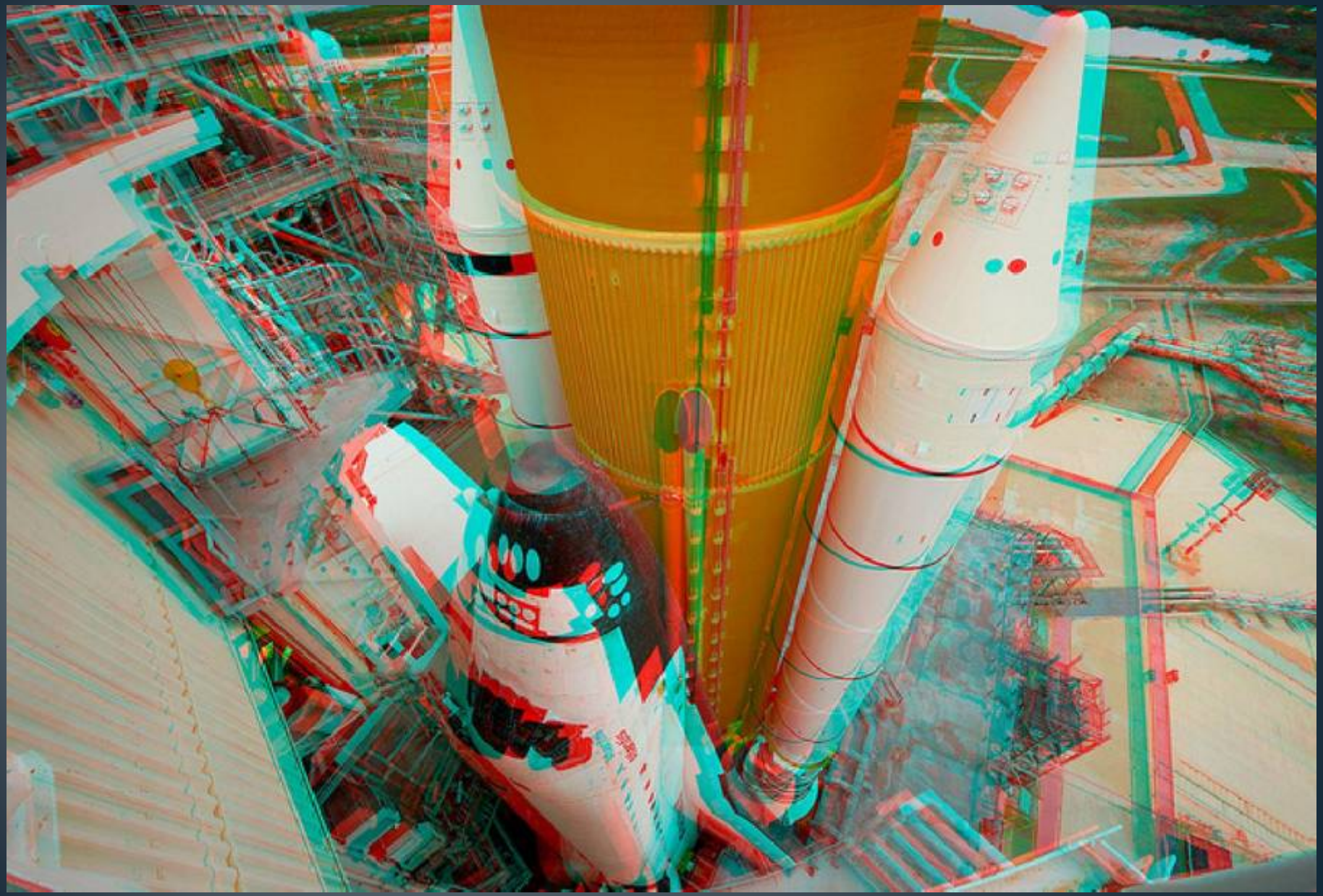
APOLLO - 11

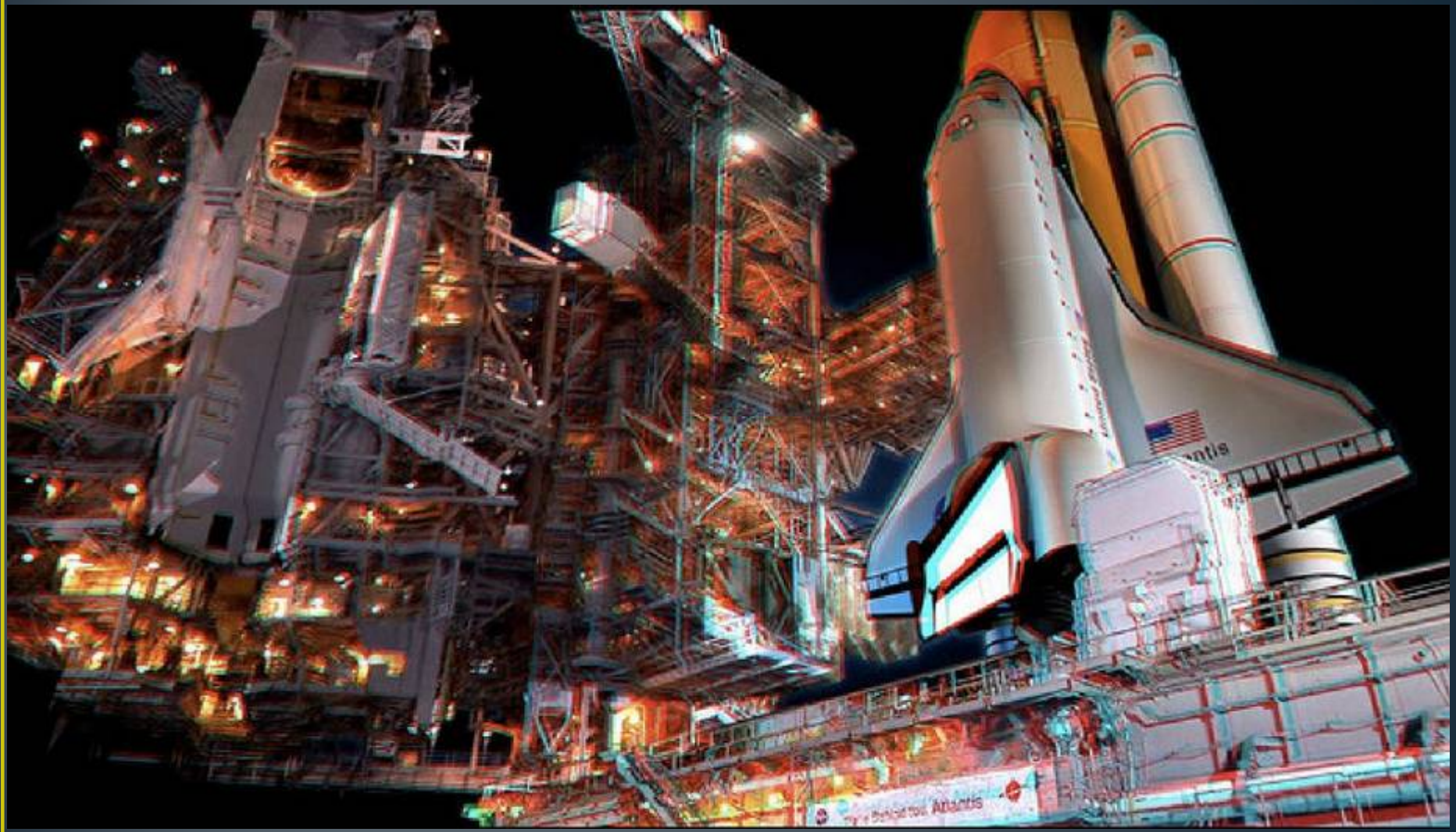


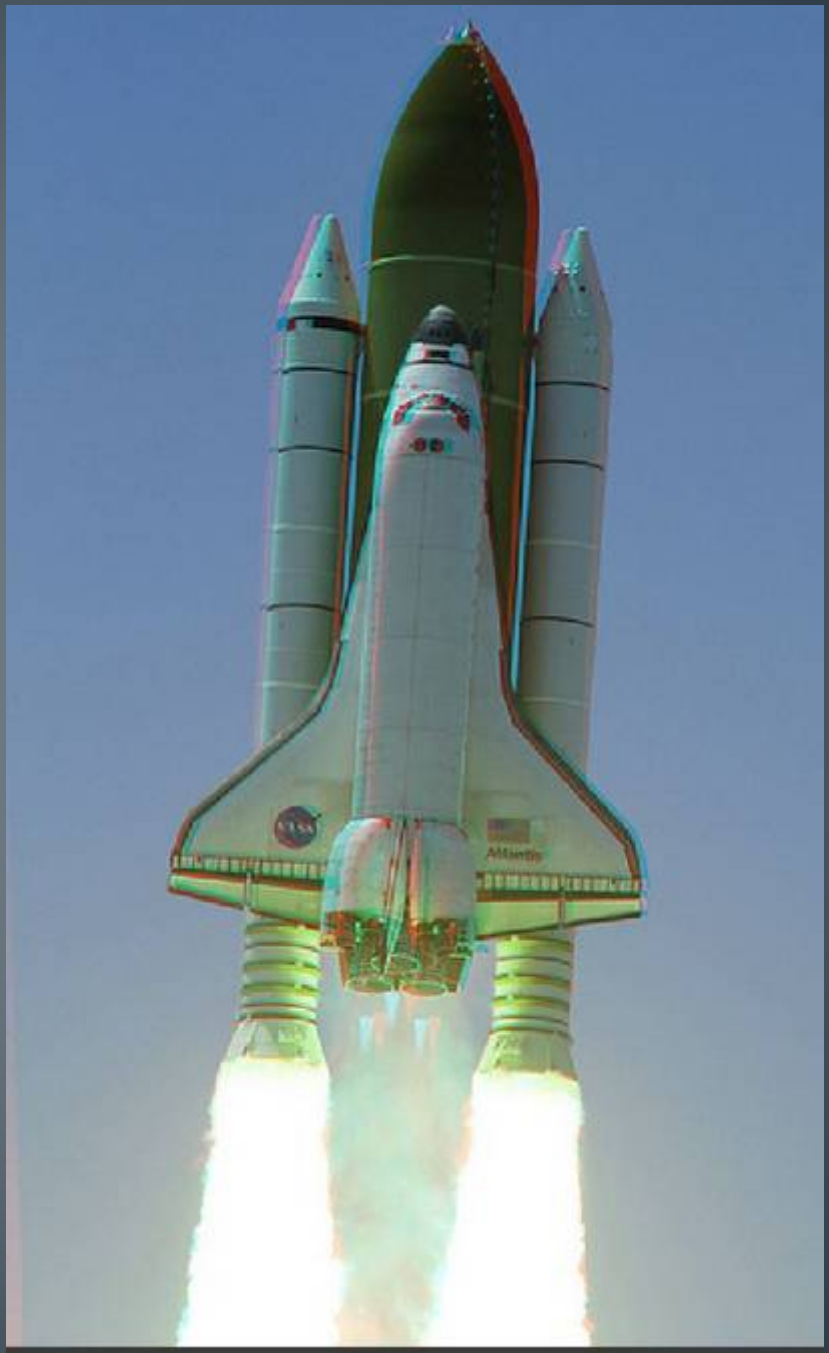


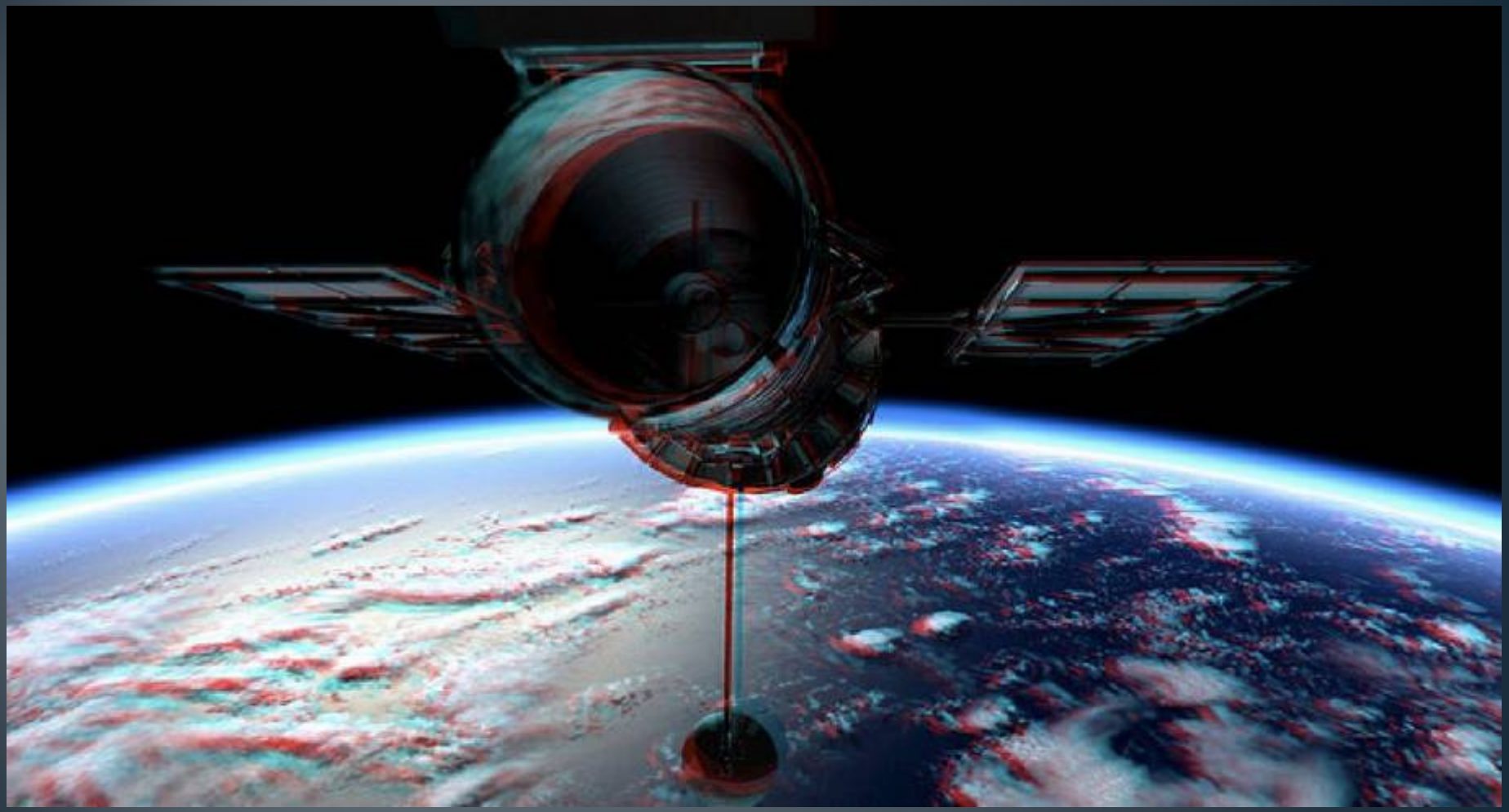


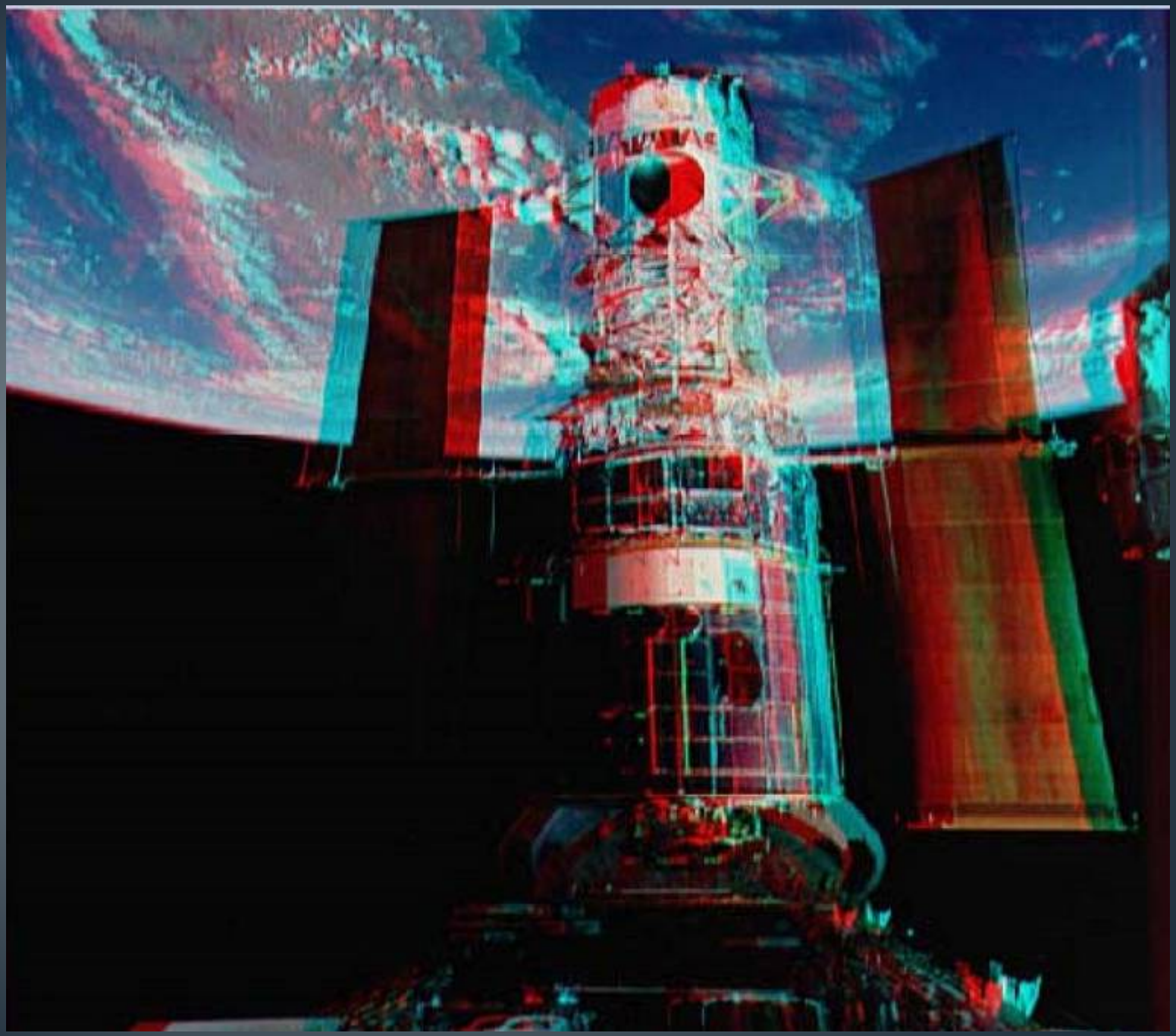


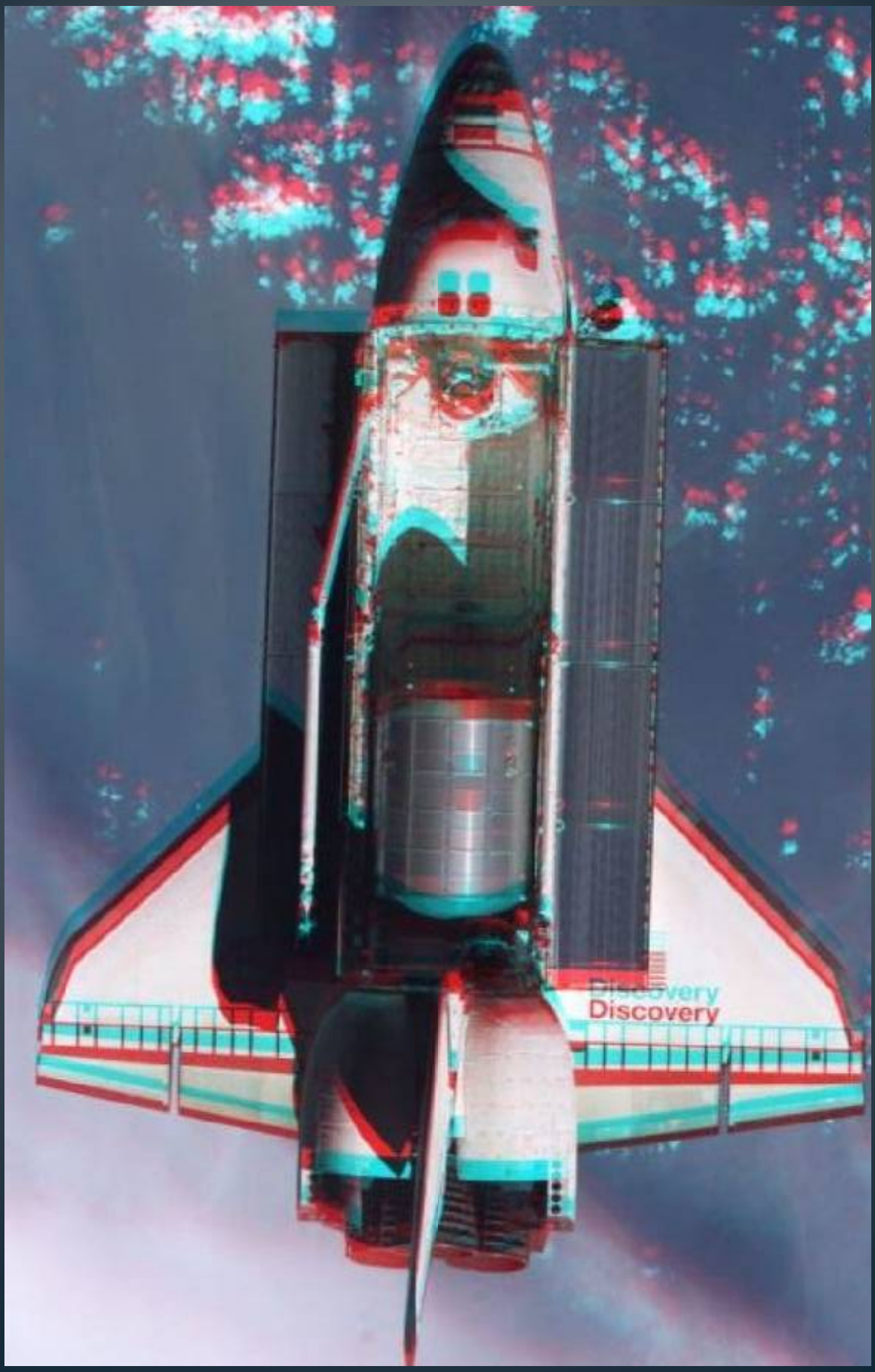


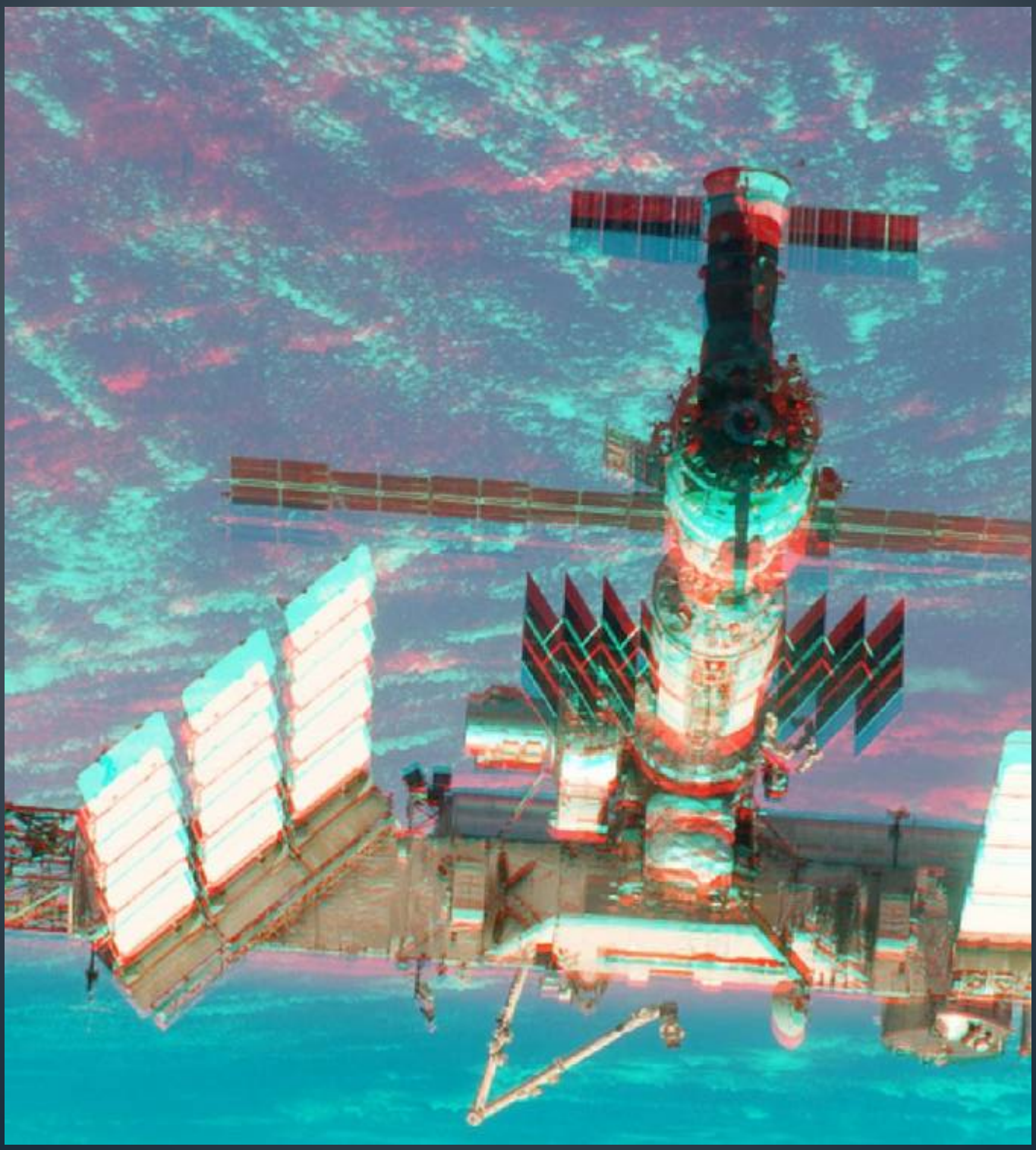


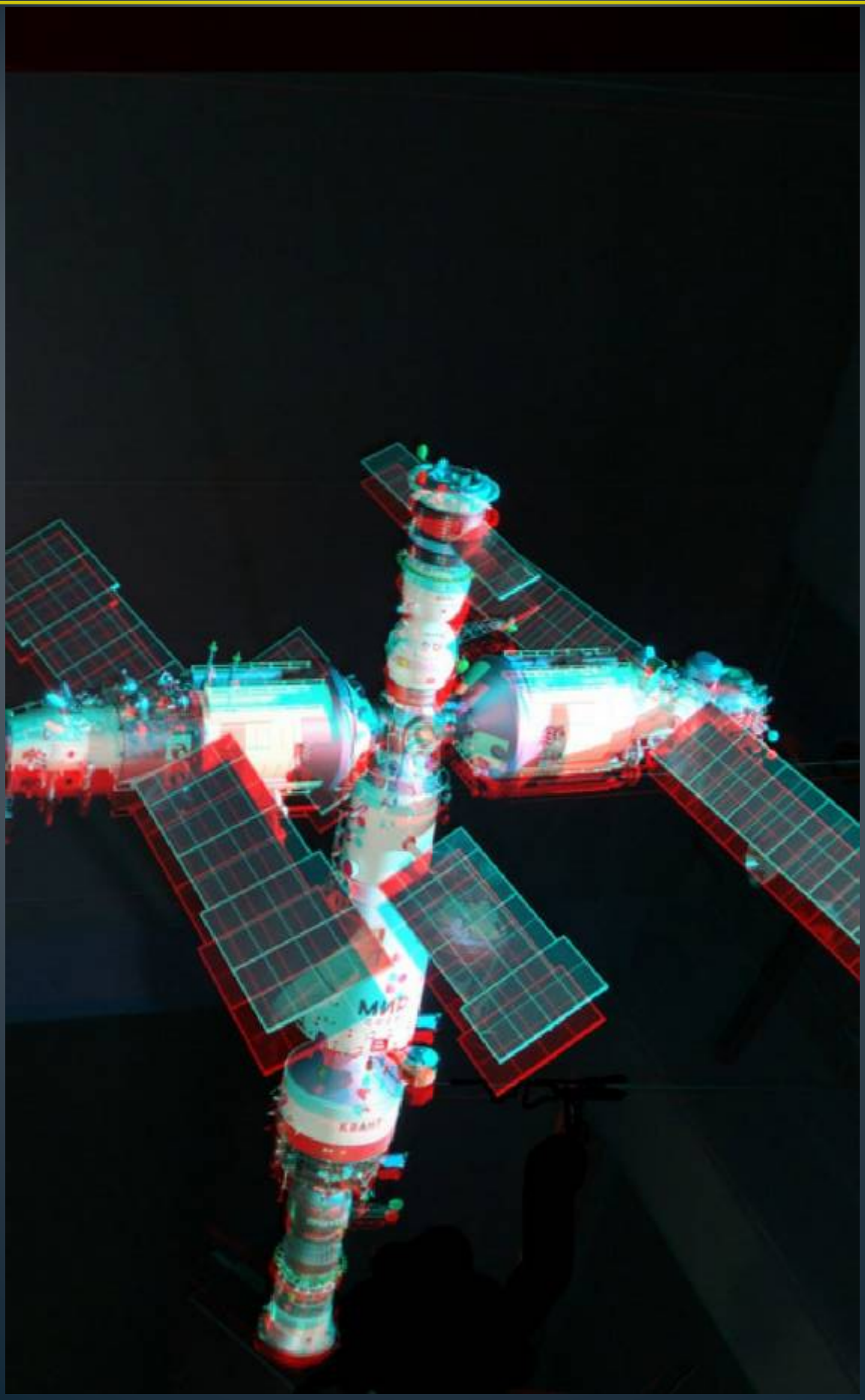

NASA
Atlantis

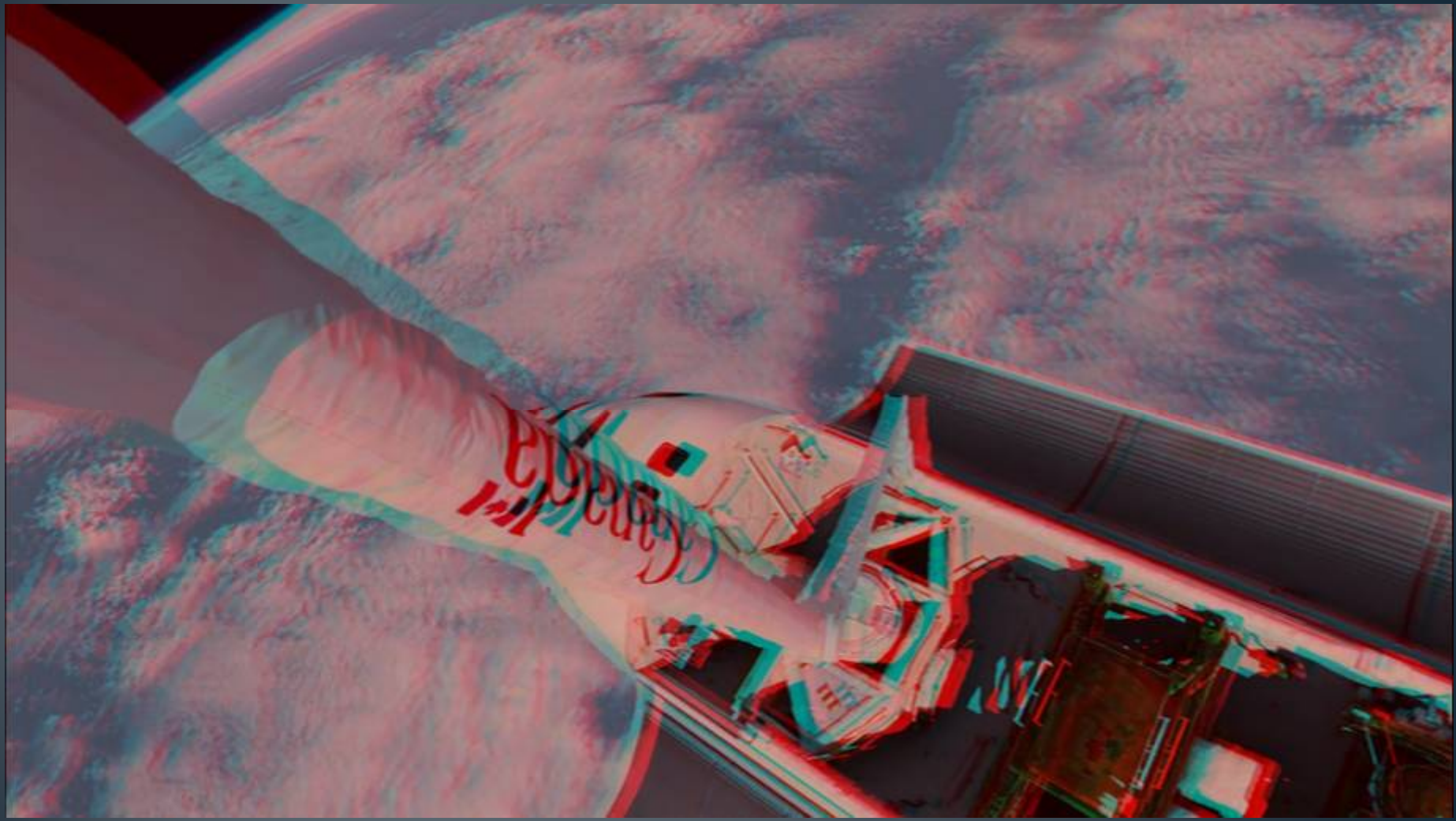


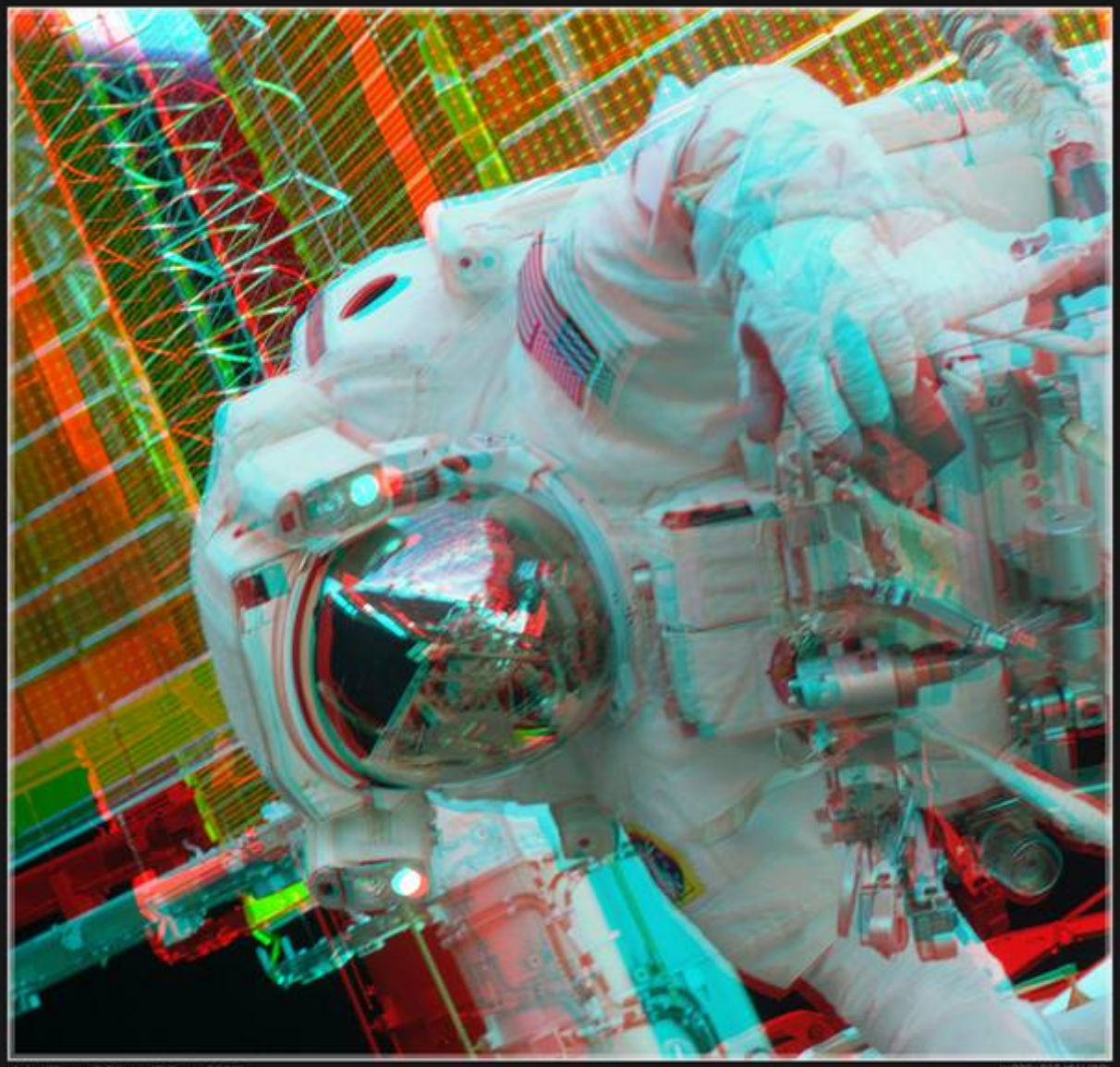



Discovery




МИР
КВАНТ



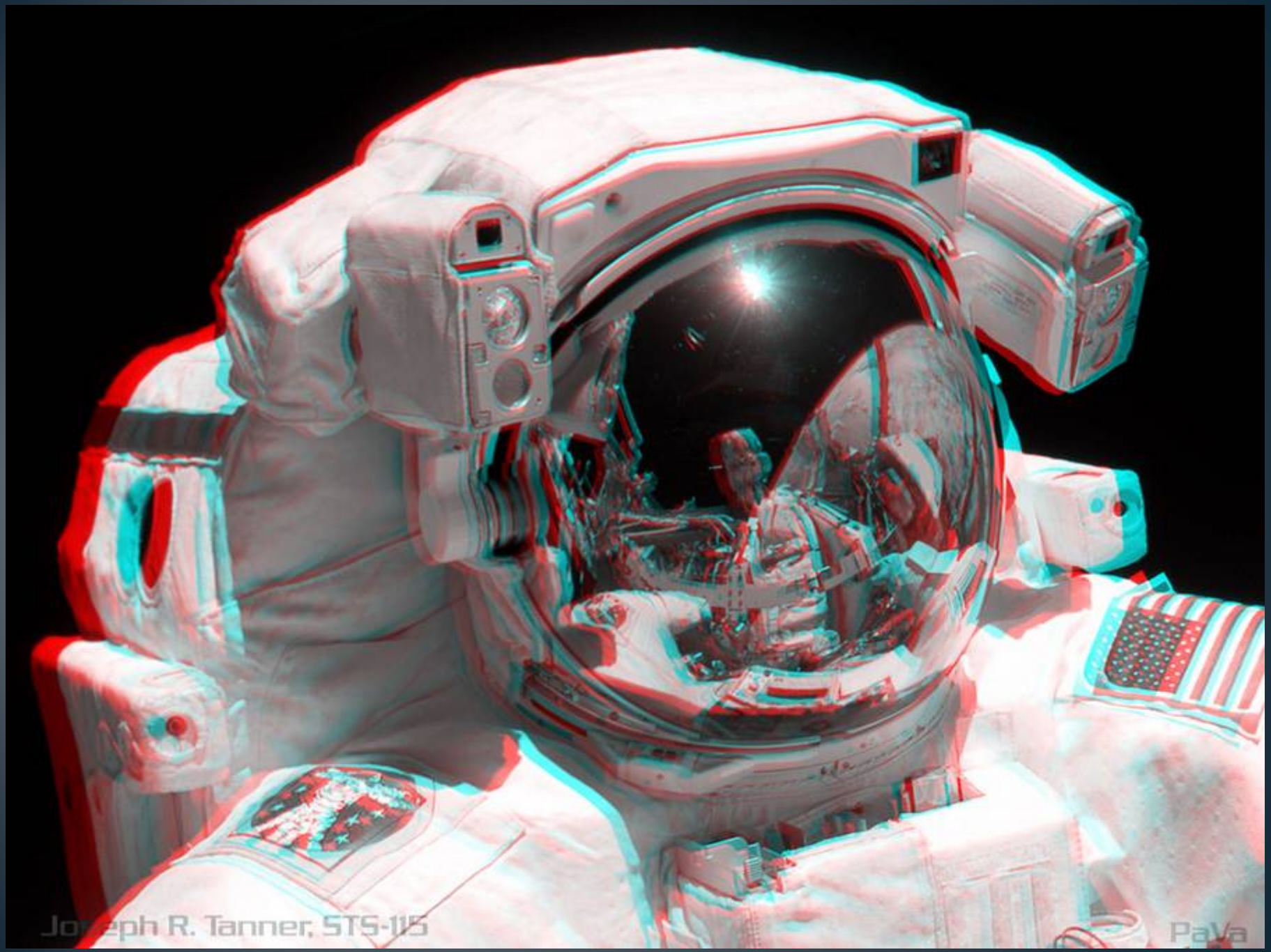


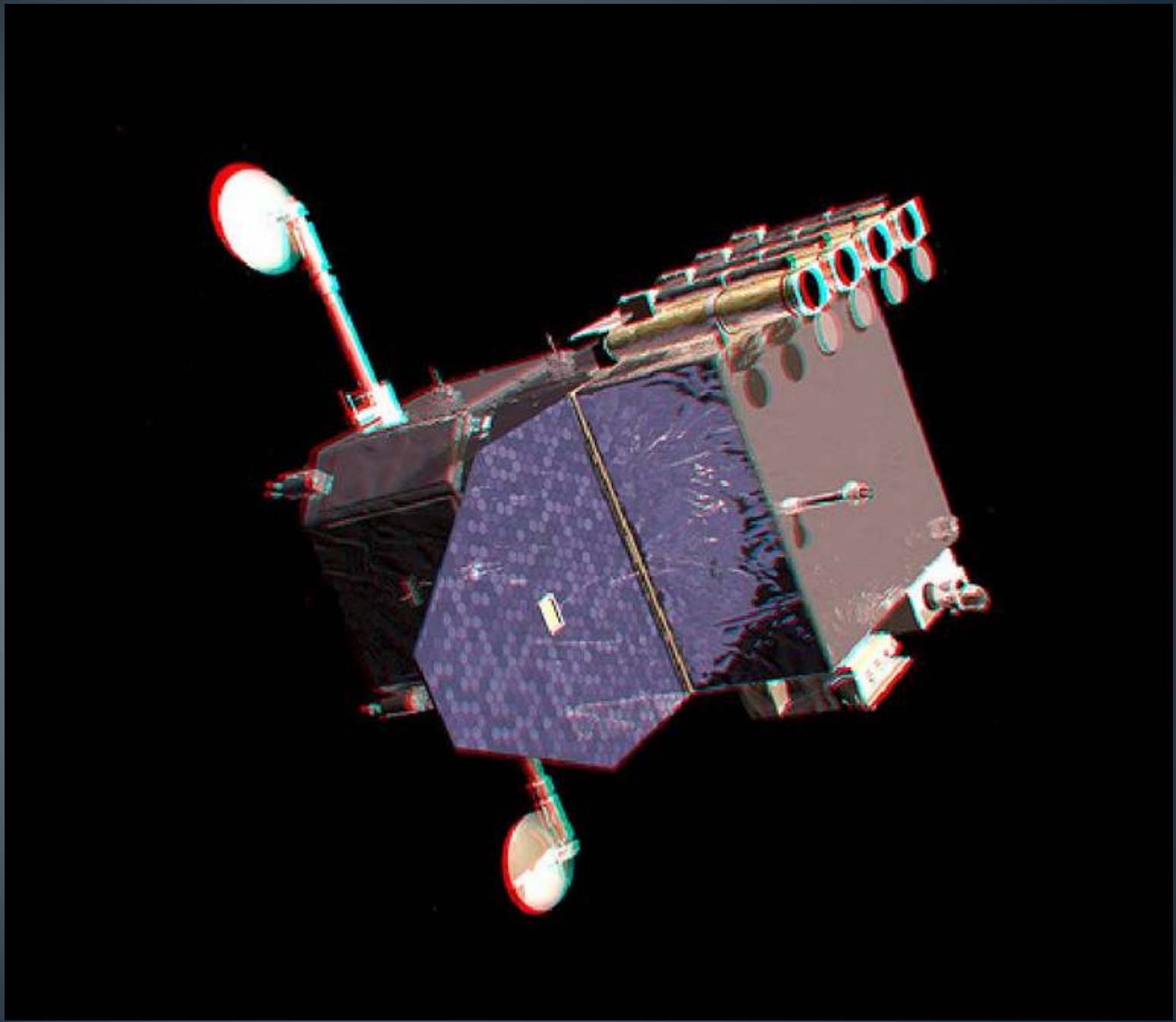
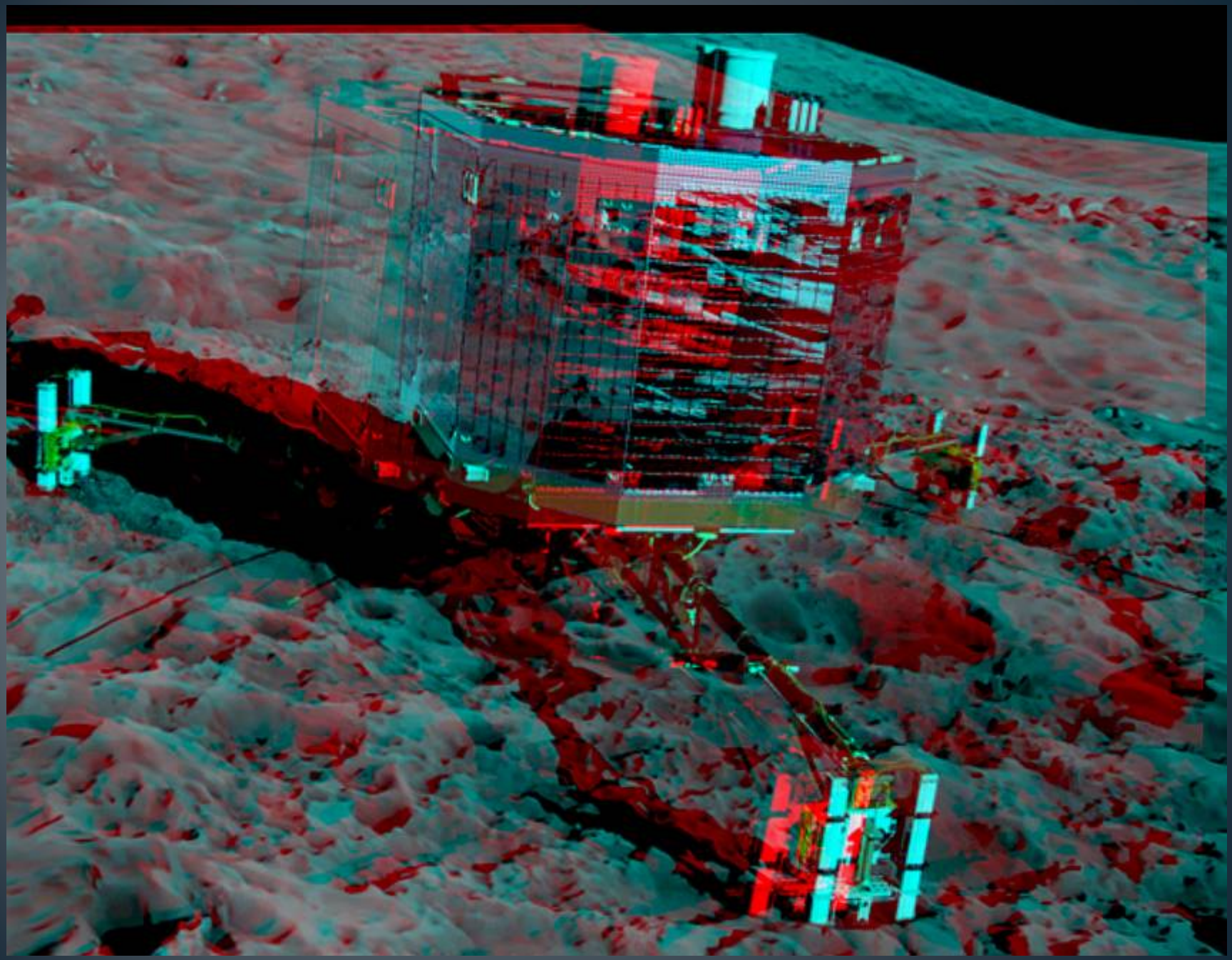
John "Danny" Olivas (9 Sept. 2009)

iss020e038481(482)

INTERNATIONAL SPACE STATION

Stereo by Patrick Vantuyne


Joseph R. Tanner, STS-115
PaVa

esa

PaVa