

ONE ASTRONOMER'S ADVENTURE

AN ILLUSTRATED JOURNEY



MICHAEL A. EARL

CANADIAN SATELLITE TRACKING AND ORBIT RESEARCH (CASTOR)

NOVEMBER 7, 2007

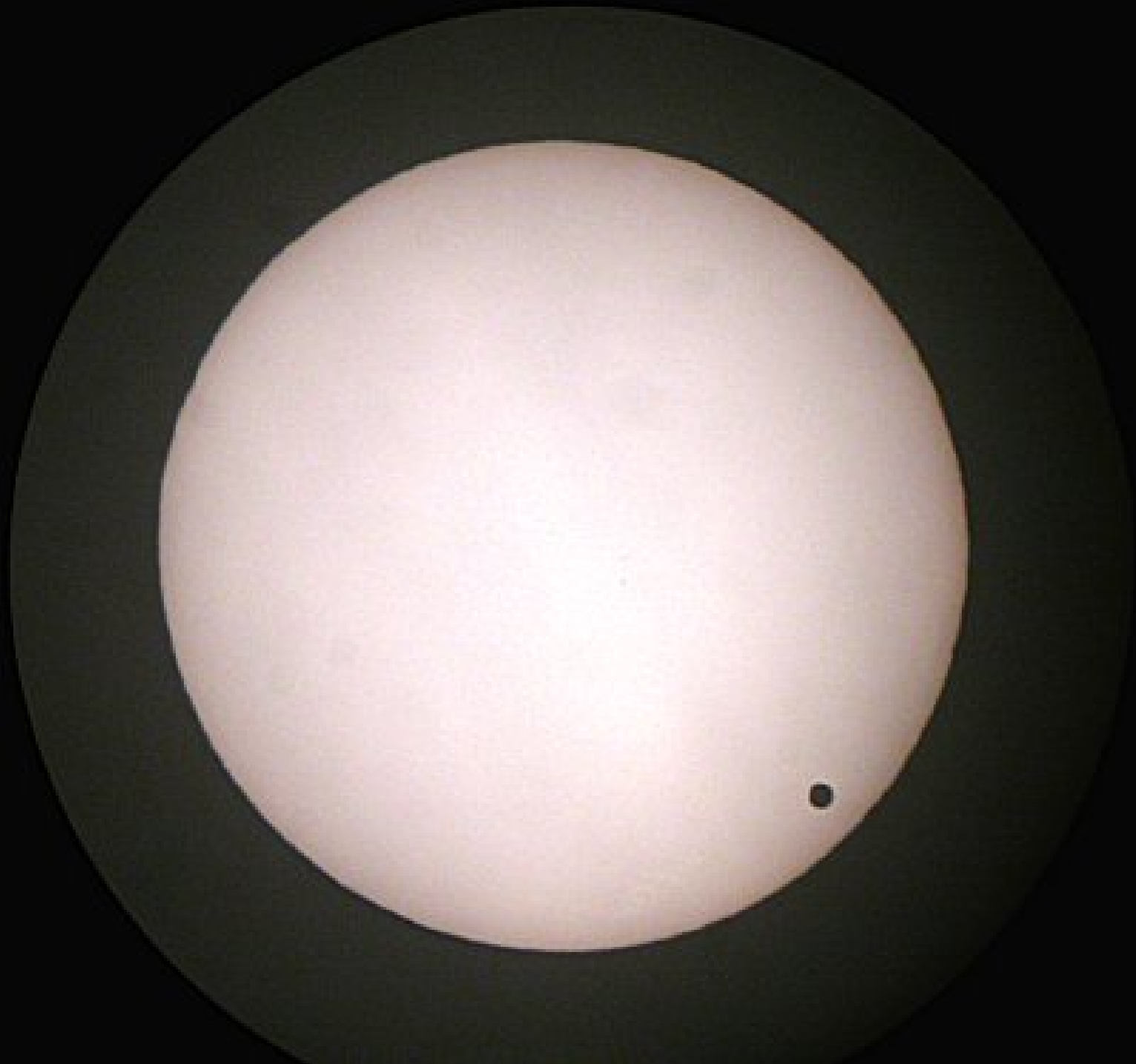
















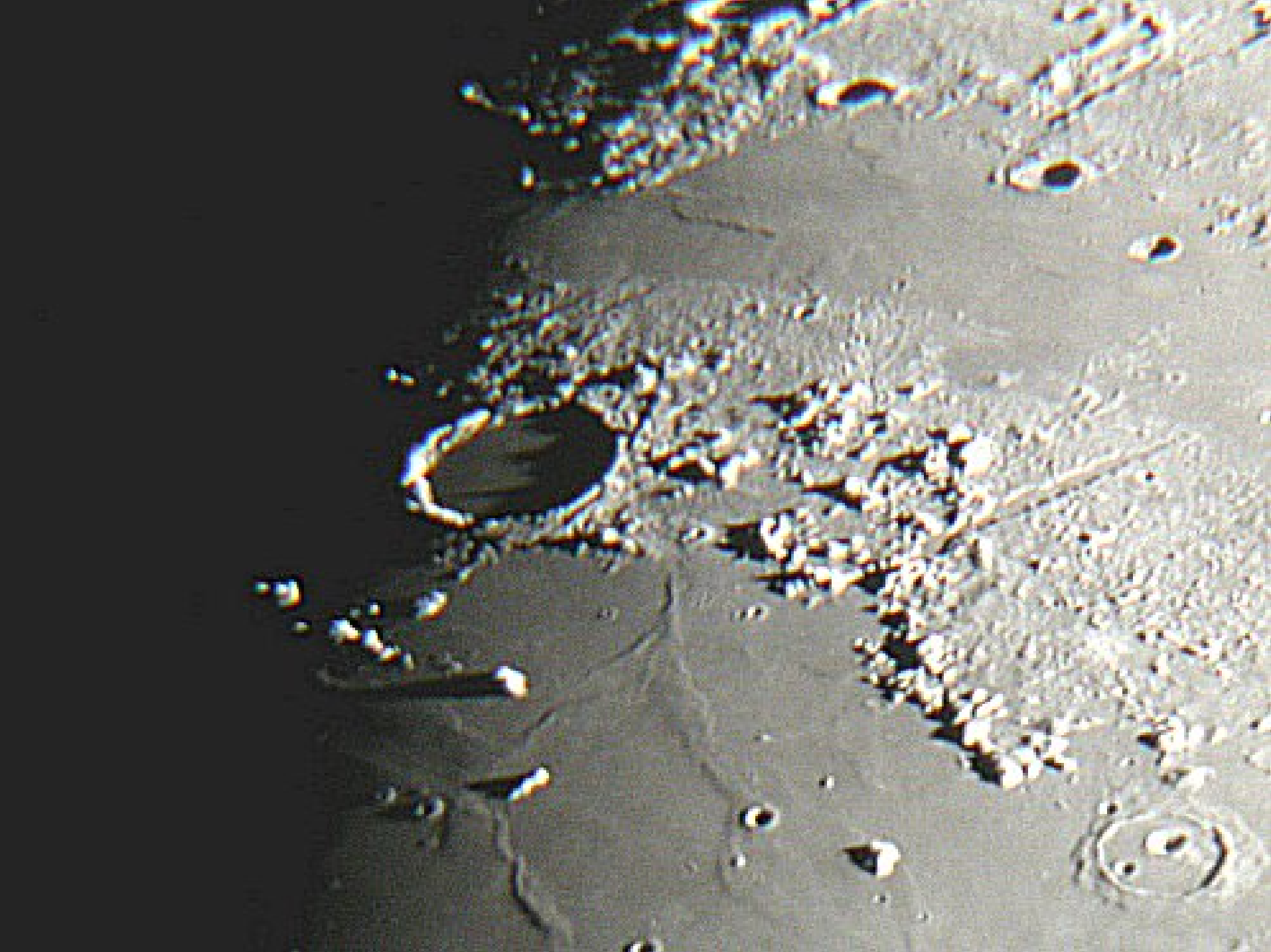












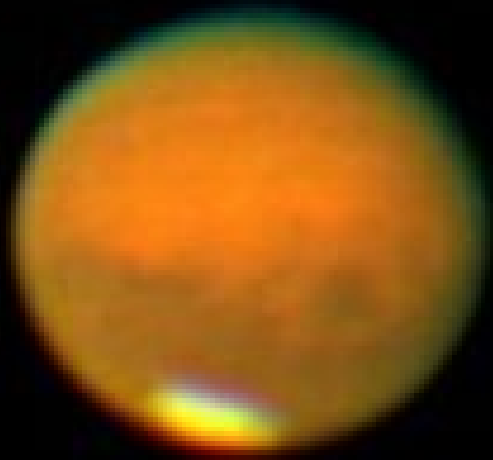




















RHEA

MIMAS

ENCELADUS

DIONE

SATURN



TETHYS

IAPETUS

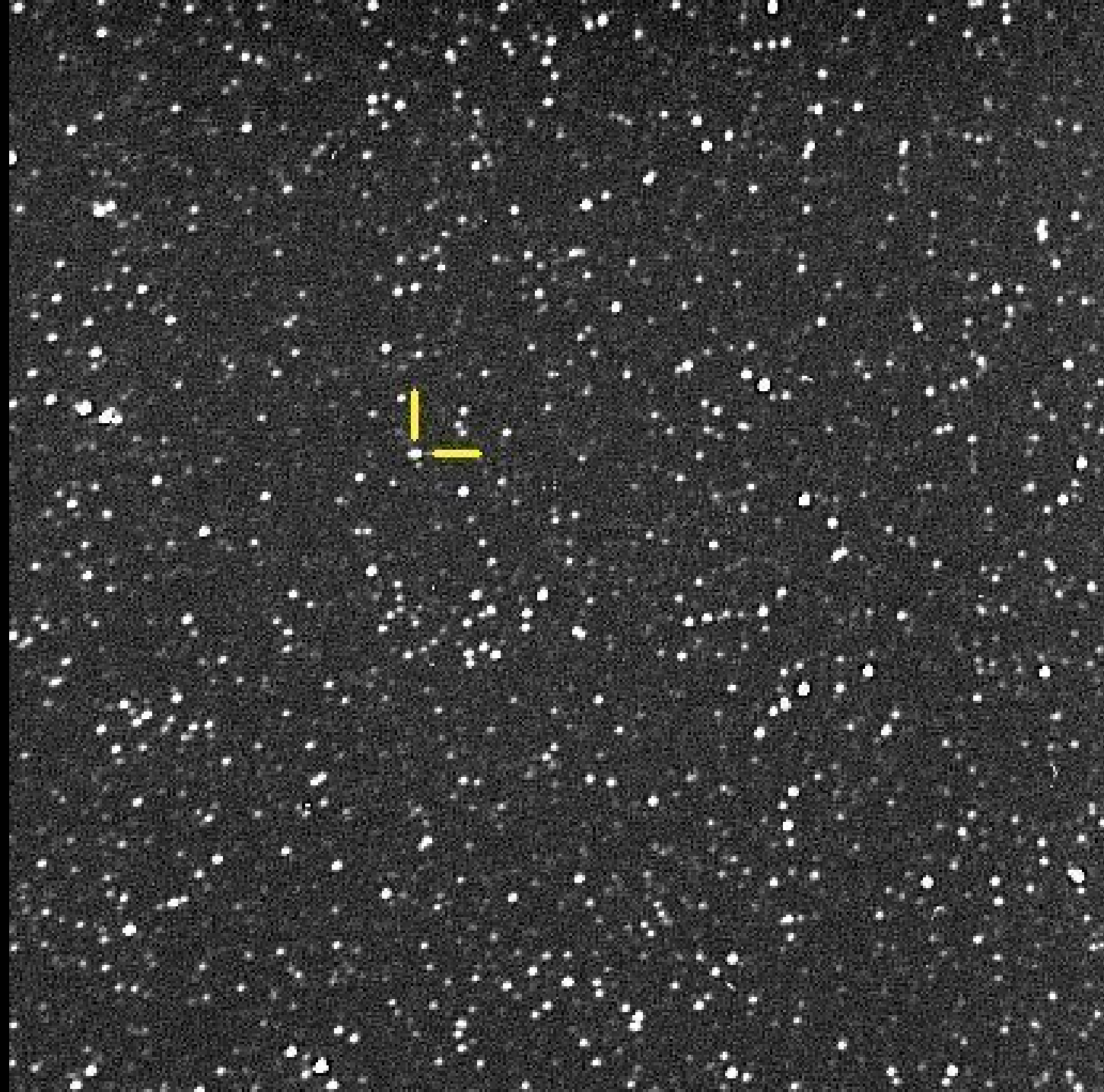
TITAN

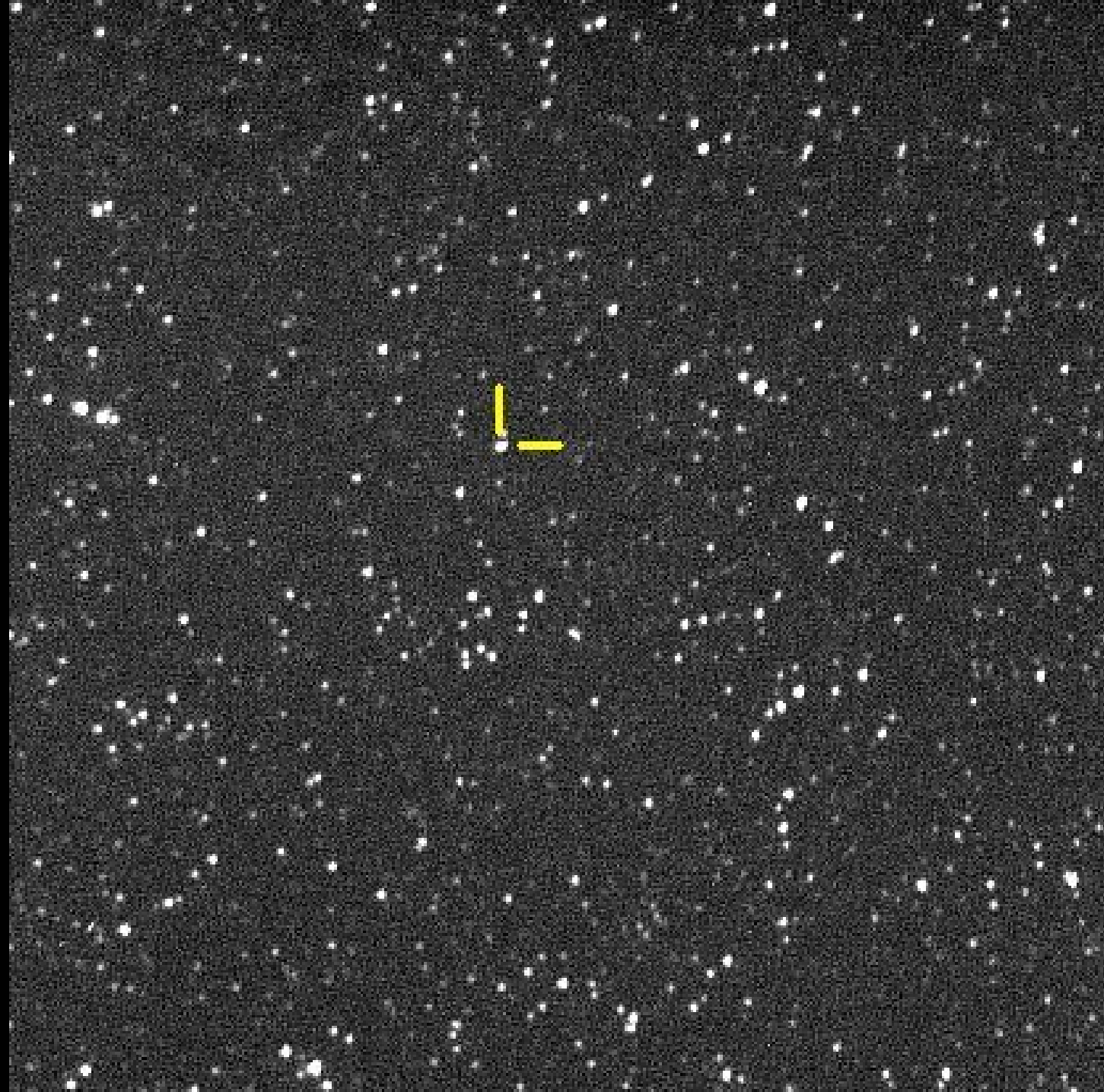




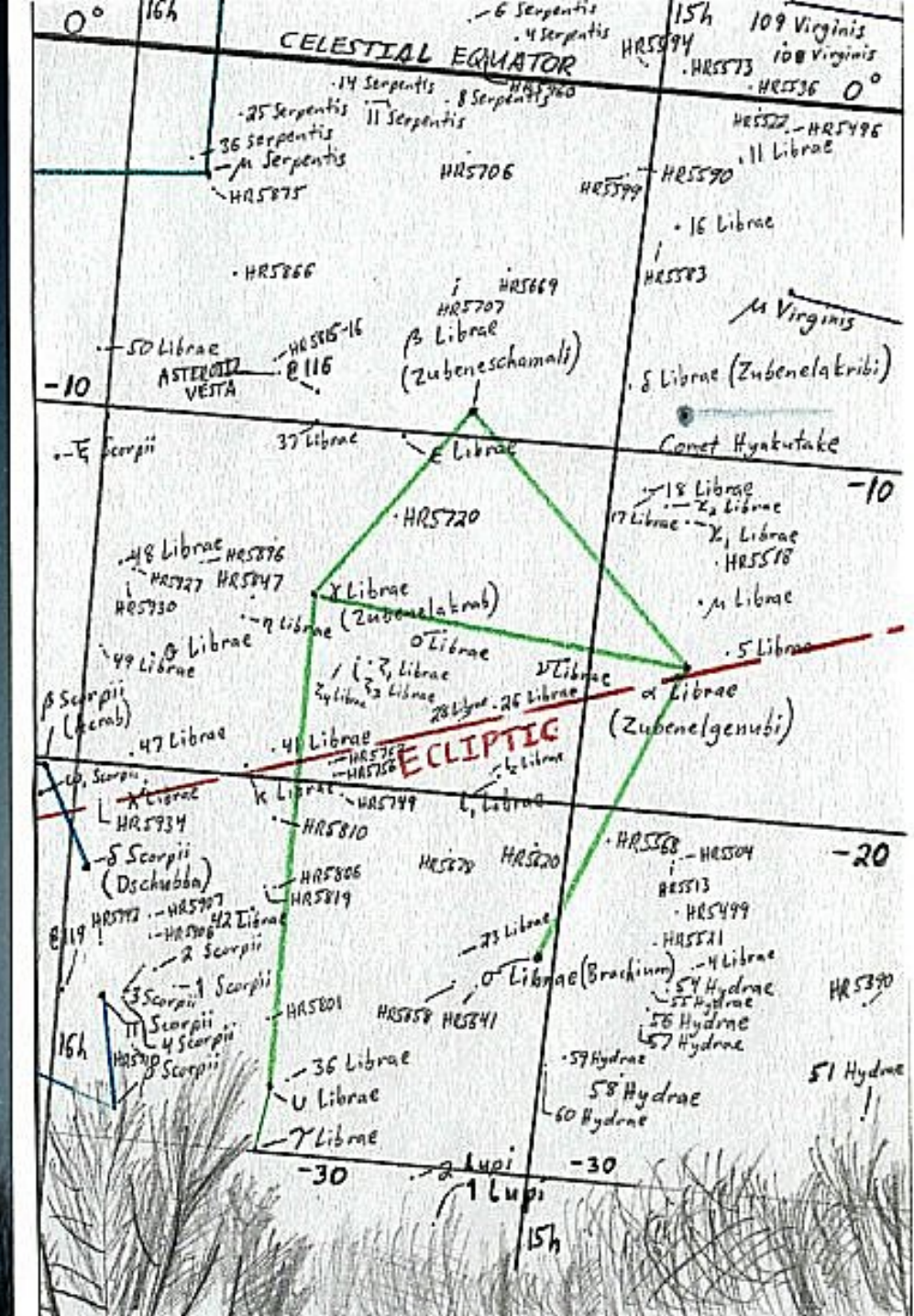




















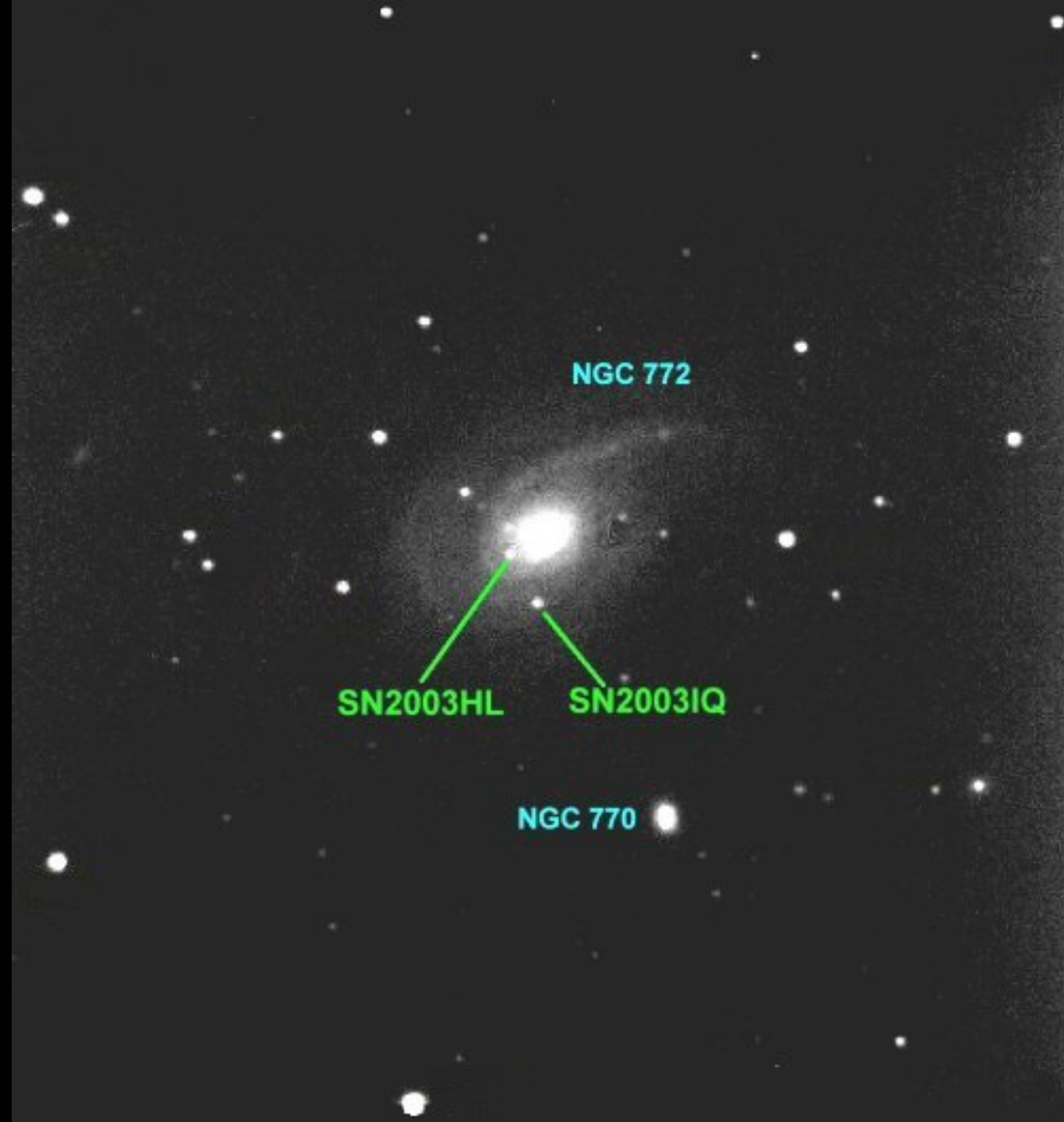


NGC 772

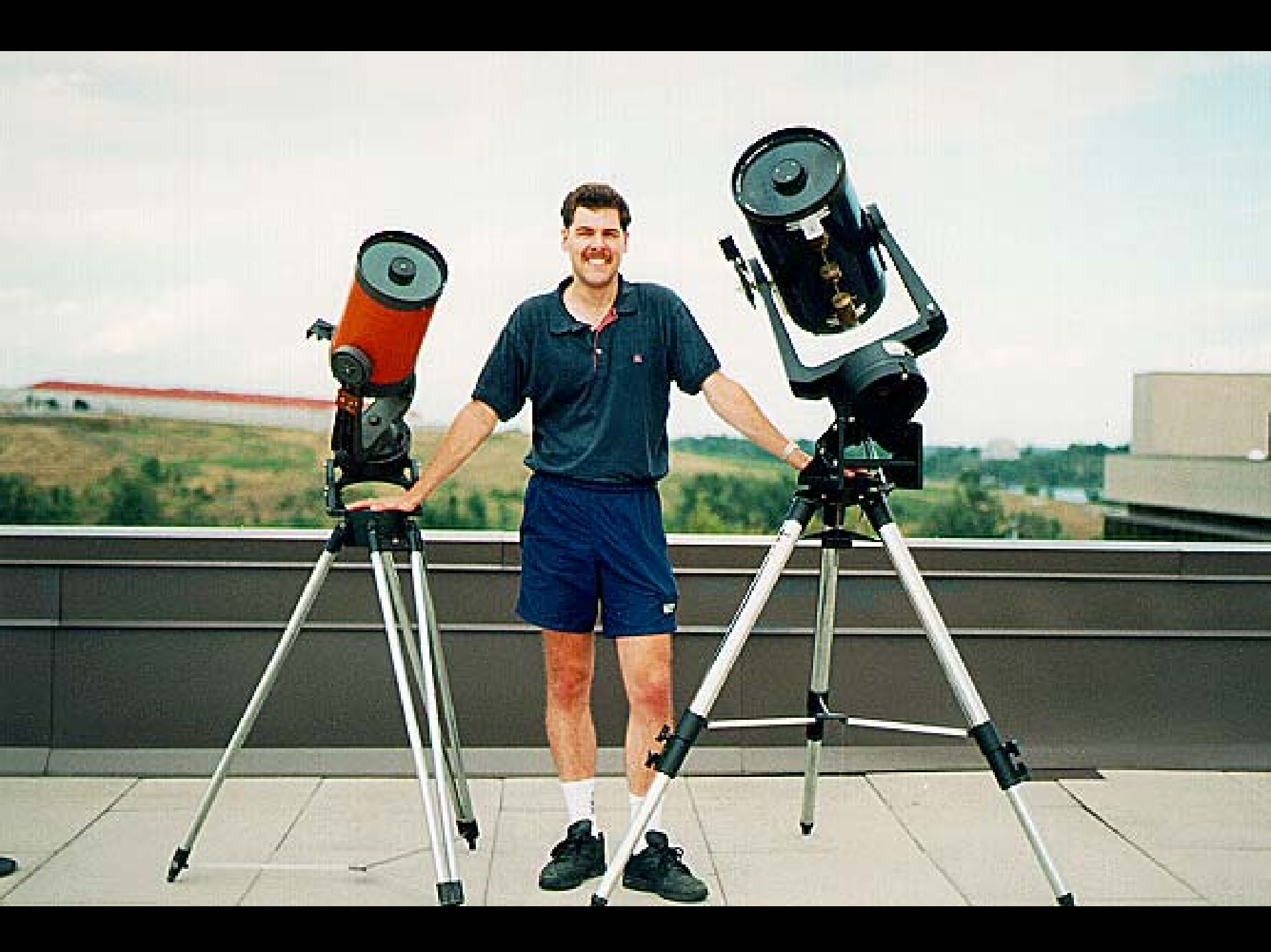
SN2003HL

SN2003IQ

NGC 770





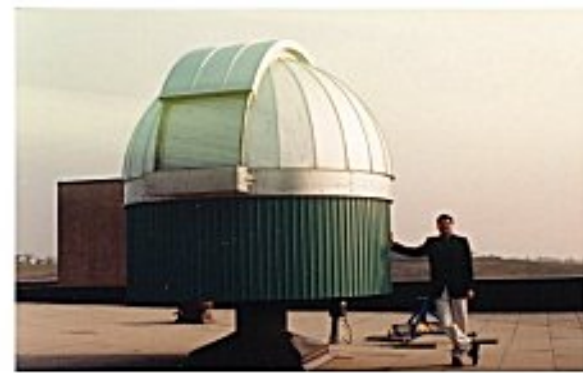




CASTOR



**CANADIAN ATOMATED SMALL TELESCOPE
FOR ORBITAL RESEARCH**



THE CONSTRUCTION OF CASTOR K











CASTOR

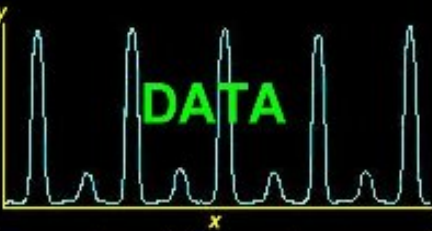


CANADIAN SATELLITE TRACKING AND ORBIT RESEARCH

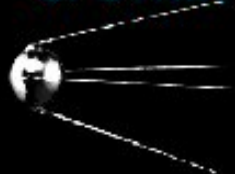
SATELLITE TRACKING FOR THE 21ST CENTURY

WHAT IS CASTOR?	FOR THE CURIOUS	FOR ASTRONOMERS	FOR ACADEMIA	FOR INDUSTRY
UPDATES	FACT AND FICTION	W5 AND HOW	OPINIONS	LEGAL

**About
Mike
Earl**



SPUTNIK



50TH ANNIVERSARY BONANZA



ORBITS

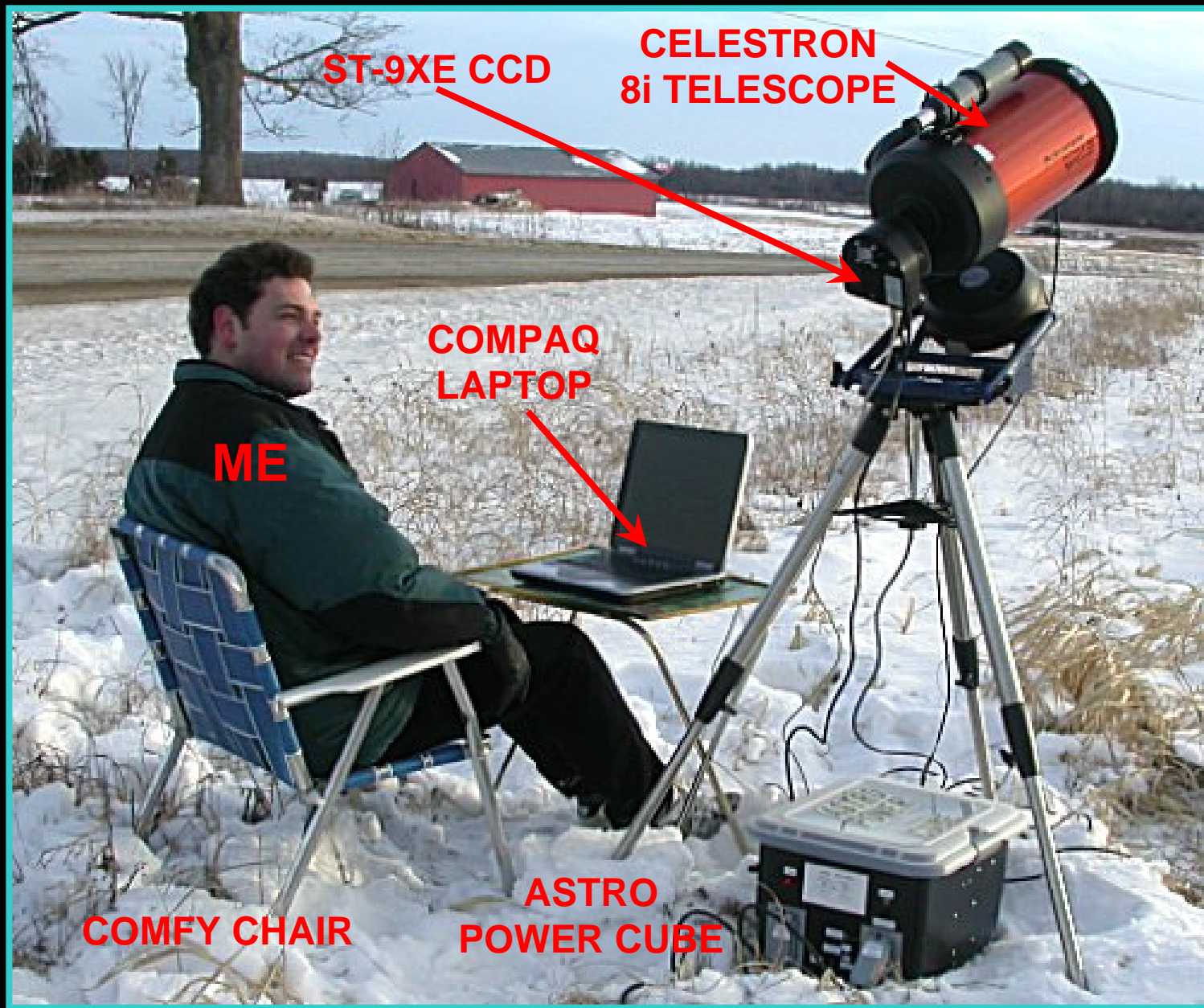


**AMAZING
COMET
17P / HOLMES**



IMAGES

LAIKA: FIRST ANIMAL IN SPACE



ST-9XE CCD

CELESTRON
8i TELESCOPE

COMPAQ
LAPTOP

ME

COMFY CHAIR

ASTRO
POWER CUBE

THE "CASTOR JUNIOR" FACILITY

DEW HEATER

**CELESTRON 11-GPS
TELESCOPE**

ST-9XE CCD

**COMPAQ
LAPTOP**

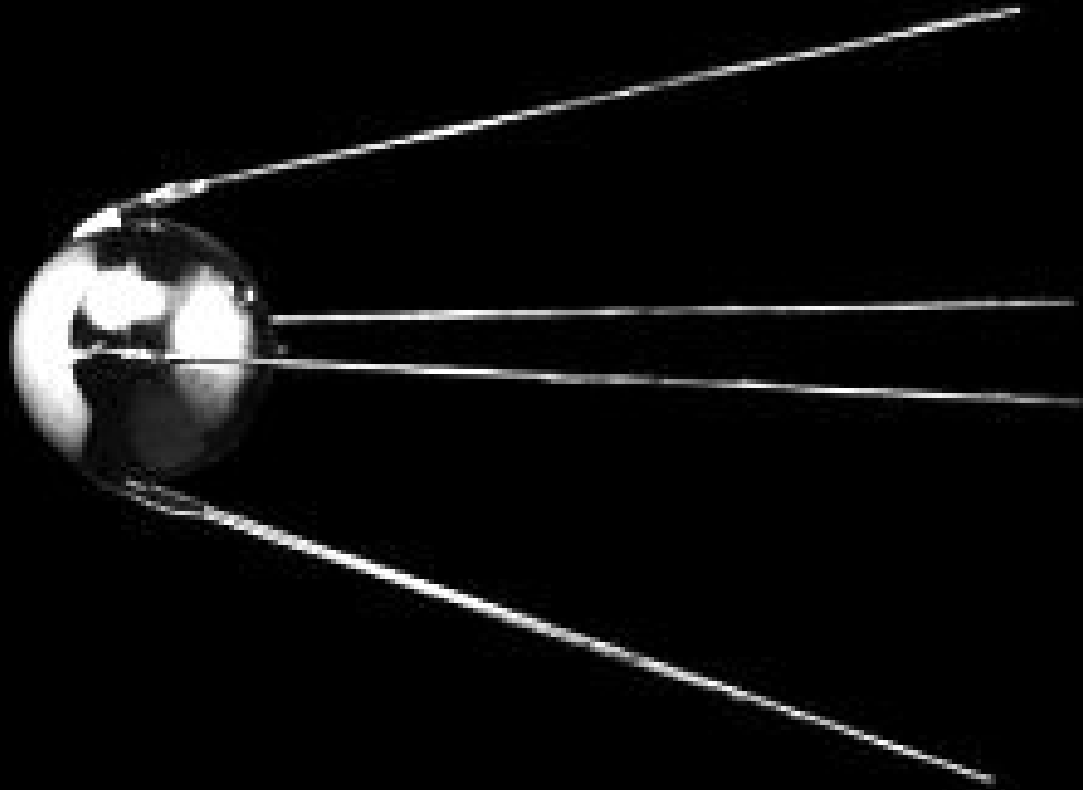
**TIMEX
STOPWATCH**

**ASTRO
POWER CUBE**

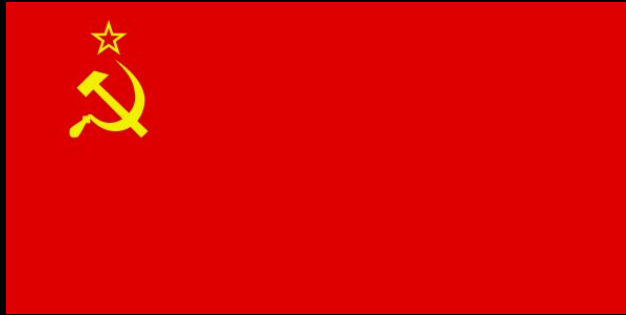
**COMFY
CHAIR**



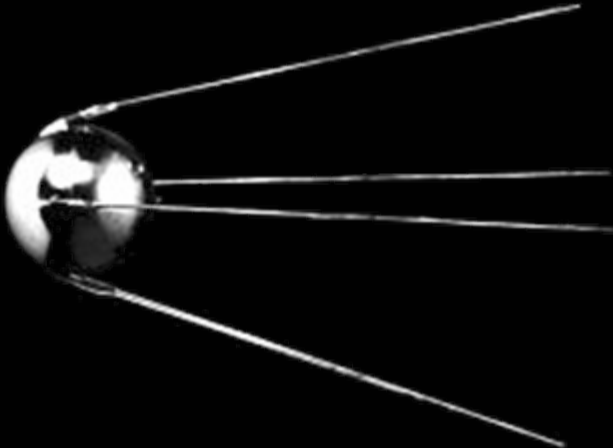
THE "CASTOR" FACILITY



CASTOR'S "SPUTNIK 50TH ANNIVERSARY SATELLITE TRACKING BONANZA"



1957



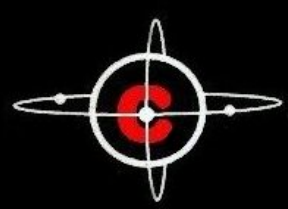
2007



MISSION: TO OPTICALLY DETECT AND TRACK 1,957 UNIQUE ARTIFICIAL SATELLITES IN 2007 TO CELEBRATE SPUTNIK'S 50TH ANNIVERSARY AND 50 YEARS OF SATELLITE TRACKING



WHY IS CASTOR DOING THIS?



TO CONDUCT SURVEYS OF THE ACCESSIBLE CROSS-SECTION OF THE CURRENT SATELLITE POPULATION;

TO EDUCATE THE GENERAL PUBLIC, ACADEMIA AND INDUSTRY ABOUT THE VAST SATELLITE INFRASTRUCTURE ORBITING US;

TO EDUCATE THE GENERAL PUBLIC, ACADEMIA AND INDUSTRY ABOUT THE WONDERS OF ASTRONOMY; AND

TO OFFER ITS SERVICES AND DATA TO SATELLITE COMPANIES WHO WISH AN ALTERNATIVE TO HIGH-COST SATELLITE TRACKING METHODS.



4 ОКТАБРЯ
1957 Г.

4 OCTOBER
1957

SPUTNIK ORBITING THE EARTH

SPUTNIK ORBITING THE EARTH

Первый в мире
советский
искусственный
спутник Земли

THE FIRST-EVER SOVIET
ARTIFICIAL SATELLITE OF
THE EARTH

40

КОП. ПОЧТА СССР

USSR "SPUTNIK" STAMP

2007 03 31 03 01 46.670 UTC - 5 sec



TELSTAR 1

ITNL: 1962-029A

NORAD: 00340

CASTOR: 0466



LAUNCH: JULY 10, 1962

END OF LIFE: FEBRUARY 21, 1963

THE FIRST TRANSATLANTIC
TELEVISION TRANSMISSION
SATELLITE

CASTOR JUNIOR

FOV: 18.7 ARC-MINUTES

ANG. RES.: 2.20"/pix

R.A.: 14^h 22^m 01^s.16

Dec.: +20° 20' 56".84

00340



THE TELSTAR 1 SATELLITE

α δ



ANIK A1

(TELESAT 1)

ITNL: 1972-090A

NORAD: 06278

CASTOR: 1170



LAUNCH: NOVEMBER 10, 1972

END OF LIFE: JULY 15, 1982

THE FIRST DOMESTIC (NON-MILITARY) GEOSTATIONARY COMMUNICATIONS SATELLITE

CASTOR

FOV: 13.33 ARC-MINUTES

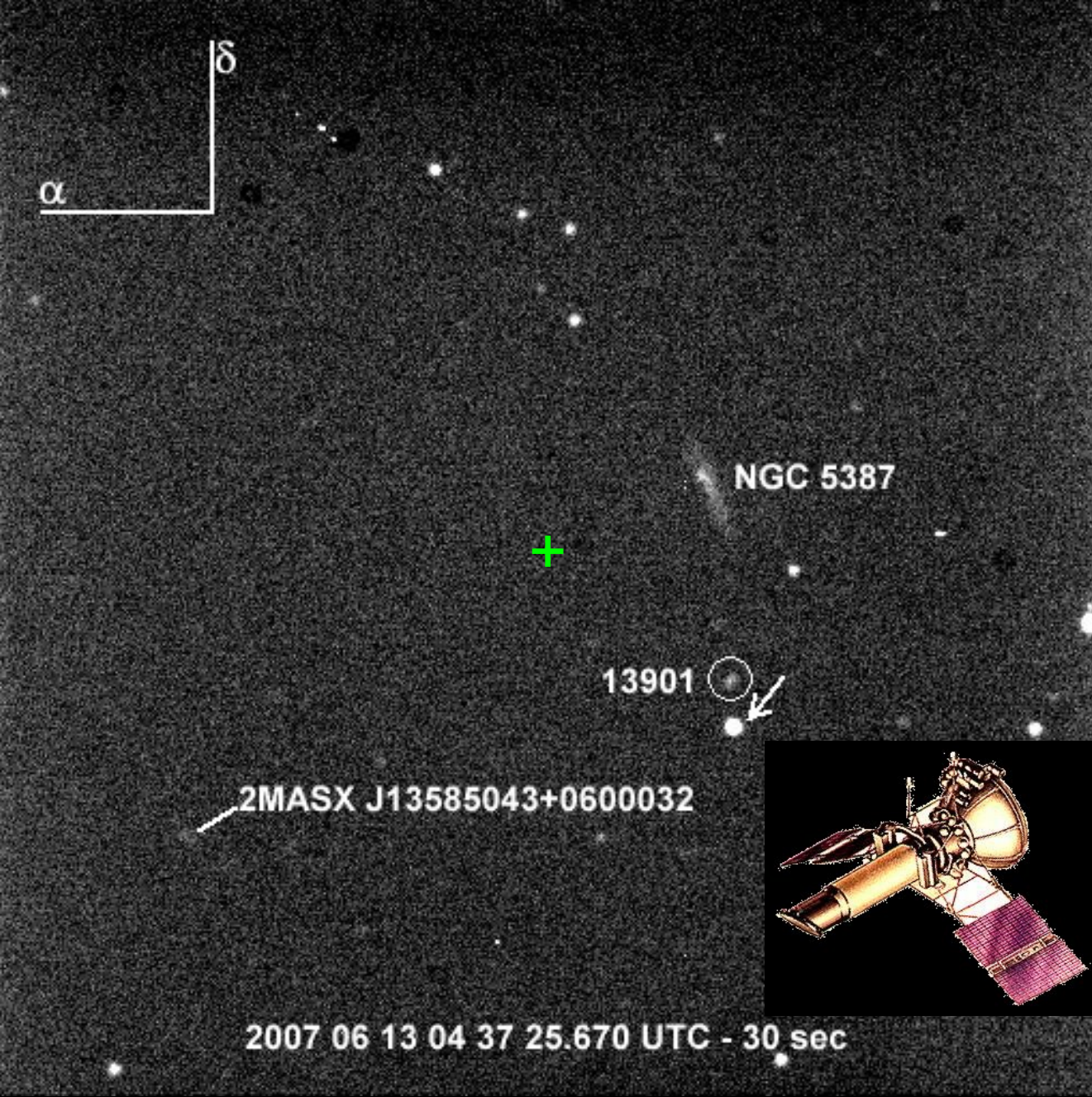
ANG. RES.: 1.562"/pix

R.A.: 22^h 54^m 06^s.17

Dec.: -11° 51' 57".04

2007 07 16 06 46 45.670 UTC - 10 sec

THE ANIK A1 SATELLITE



ASTRON

ITNL: 1983-020A

NORAD: 13901

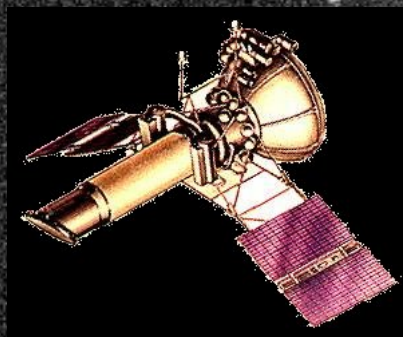
CASTOR: 0978



LAUNCH: MARCH 23, 1983

END OF LIFE: JUNE 1989

UV AND X-RAY
ASTROPHYSICS
OBSERVATORY



CASTOR

FOV: 13.33 ARC-MINUTES

ANG. RES.: 1.562"/pix

R.A.: 13^h 58^m 32^s.82

Dec.: +06^o 03' 33.65"

THE ASTRON SATELLITE





SATELLITES DETECTED BY CASTOR



JANUARY 1 TO NOVEMBER 7, 2007

LEO Satellites (200 to 1,000 km): 756

MEO Satellites (1,000 to 36,000 km): 634

GEO Satellites (36,000 km): 489

HEO Satellites (36,000 km and higher): 13

TOTAL: 1,892 Unique Satellites

17.2% of Total Satellite Population





CASTOR WEBSITE ETC...



CASTOR Website: www.castor2.ca

CASTOR E-mail: info@castor2.ca

CASTOR Presentation Slides: www.castor2.ca/11_Mike_Earl/05_Slides

CASTOR Images: www.castor2.ca/16_Images

About Mike Earl: www.castor2.ca/11_Mike_Earl