



44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society

Sunday October 14 to Friday October 19, 2012

Reno, NV



NEODyS-2

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H78 OBSERVATIONS AND RESIDUALS

1178-University of Narino Observatory, Pasto

Detections | Residuals | Detections & Residuals

[1-200] [201-400] [401-586]

Designation	T	Tech	N	Date	Right Ascension	Declination	mag	residual	diag min sec	precision	time			
2000ET70	O	C		2012-03-02.00517	1.000E-05	08:44:58.230	1.500E-01	1.500	F	0.000	-0.278	-46° 00' 02.30"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.00527	1.000E-05	08:44:59.900	1.500E-01	1.500	F	0.000	-0.412	-46° 00' 02.30"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.00526	1.000E-05	08:44:59.640	1.500E-01	1.500	F	0.000	0.055	-46° 00' 02.80"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.00635	1.000E-05	08:44:59.350	1.500E-01	1.500	F	0.000	0.234	-46° 00' 03.20"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.00794	1.000E-05	08:44:58.050	1.500E-01	1.500	F	0.000	-0.263	-46° 00' 06.20"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.00823	1.000E-05	08:44:57.750	1.500E-01	1.500	F	0.000	-0.187	-46° 00' 07.60"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.00872	1.000E-05	08:44:57.490	1.500E-01	1.500	F	0.000	0.305	-46° 00' 08.30"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01070	1.000E-05	08:44:55.940	1.500E-01	1.500	F	0.000	0.414	-46° 00' 12.30"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01108	1.000E-05	08:44:55.650	1.500E-01	1.500	F	0.000	0.514	-46° 00' 12.90"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01148	1.000E-05	08:44:55.350	1.500E-01	1.500	F	0.000	0.674	-46° 00' 13.90"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01187	1.000E-05	08:44:55.020	1.500E-01	1.500	F	0.000	0.439	-46° 00' 14.60"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01225	1.000E-05	08:44:54.680	1.500E-01	1.500	F	0.000	0.181	-46° 00' 15.00"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01264	1.000E-05	08:44:54.370	1.500E-01	1.500	F	0.000	0.158	-46° 00' 15.80"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01303	1.000E-05	08:44:54.060	1.500E-01	1.500	F	0.000	0.133	-46° 00' 16.50"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01344	1.000E-05	08:44:53.750	1.500E-01	1.500	F	0.000	0.108	-46° 00' 17.50"	1.000E-01	1.500
2000ET70	O	C		2012-03-02.01405	1.000E-05	08:44:51.390	1.500E-01	1.500	F	0.000	1.086	-46° 00' 22.30"	1.000E-01	1.500



Title: The Asteroid 2000 ET70
 Author Block: Alberto Q. Vodniza¹, M. R. Pereira¹
¹University of Narino Observatory, Colombia.

ABSTRACT

The asteroid 2000 ET70 (162421) was discovered by Lincoln Laboratory ETS (LINEAR) in New Mexico on March 8, 2000. Whiteley (2001) classified 2000 ET70 as an X-type object: This asteroid belongs to an ambiguous group that includes objects that are large and dark, metallic. The composition of this asteroid is unknown. The asteroid was at 0.0454430 U.A from the Earth on February 19.85956 (2012) and it will be at approximately 0.1503270 A.U from the Earth on August 21.07061 (2012). The asteroid 2000 ET70 was studied by radar in Arecibo and Goldstone. Shantanu Naidu and Jean-Luc Margot studied this object by Arecibo radar (Feb 13-2012) and they suggest that 2000 ET70 is roughly 1.5 km in diameter and that it has a period of rotation of about 9.5 hours. It has an orbital period of 0.92 years. From our Observatory, located in Pasto-Colombia, we captured several pictures, videos and astrometry data during three days. Our data was published by the Minor Planet Center (MPC) and also appears at the web page of NEODyS. Our observatory's code at the MPC is "H78". Pictures of the asteroid were captured with the following equipment: 14" LX200 GPS MEADE (f/10 Schmidt-Cassegrain Telescope) and STL-1001 SBIG camera. Astrometry was carried out, and we calculated the orbital elements.

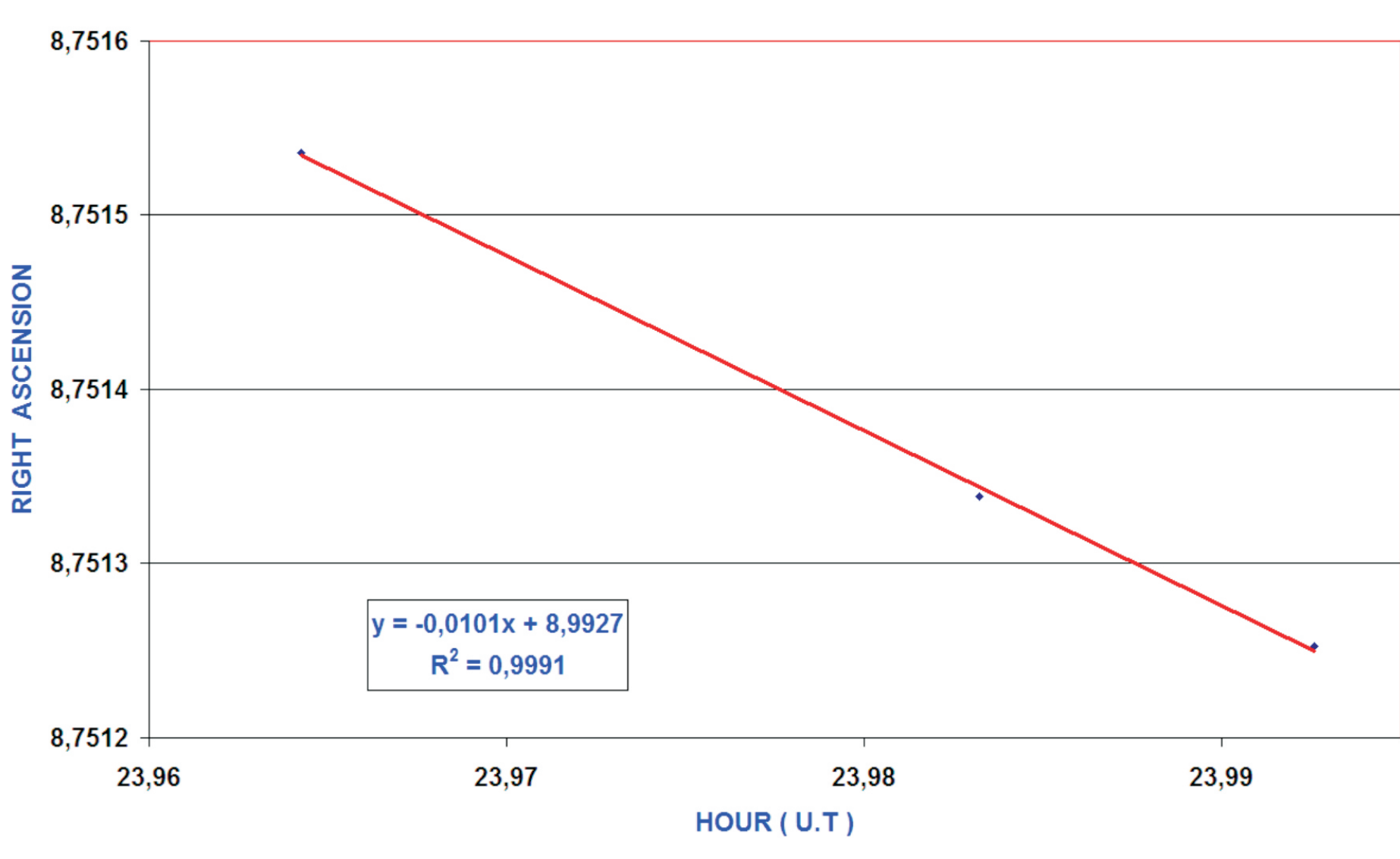
RESULTS

We obtained the following orbital parameters:

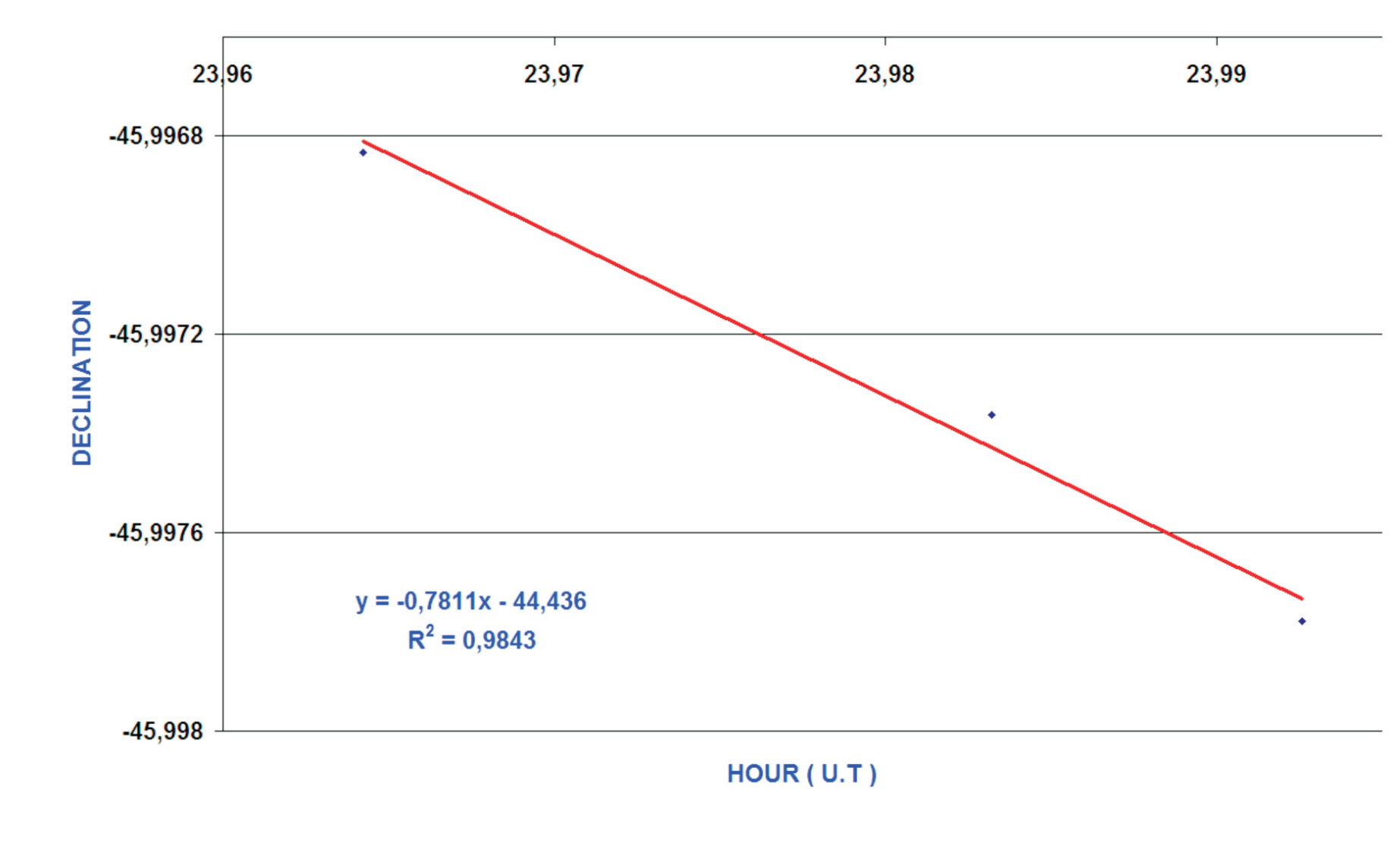
- eccentricity = 0.1243231
- semi-major axis = 0.94541495 A.U
- orbital inclination = 22.32919 deg
- longitude of the ascending node = 331.05007 deg
- argument of perihelion = 45.20913 deg
- orbital period = 0.92 years (335.76 days)
- mean motion = 1.07218658 deg/d
- perihelion distance = 0.82787796 A.U
- aphelion distance = 1.06295195 A.U

The parameters were calculated based on 71 observations (2012 Mar. 1-7) with mean residual = 0.262 arcseconds.

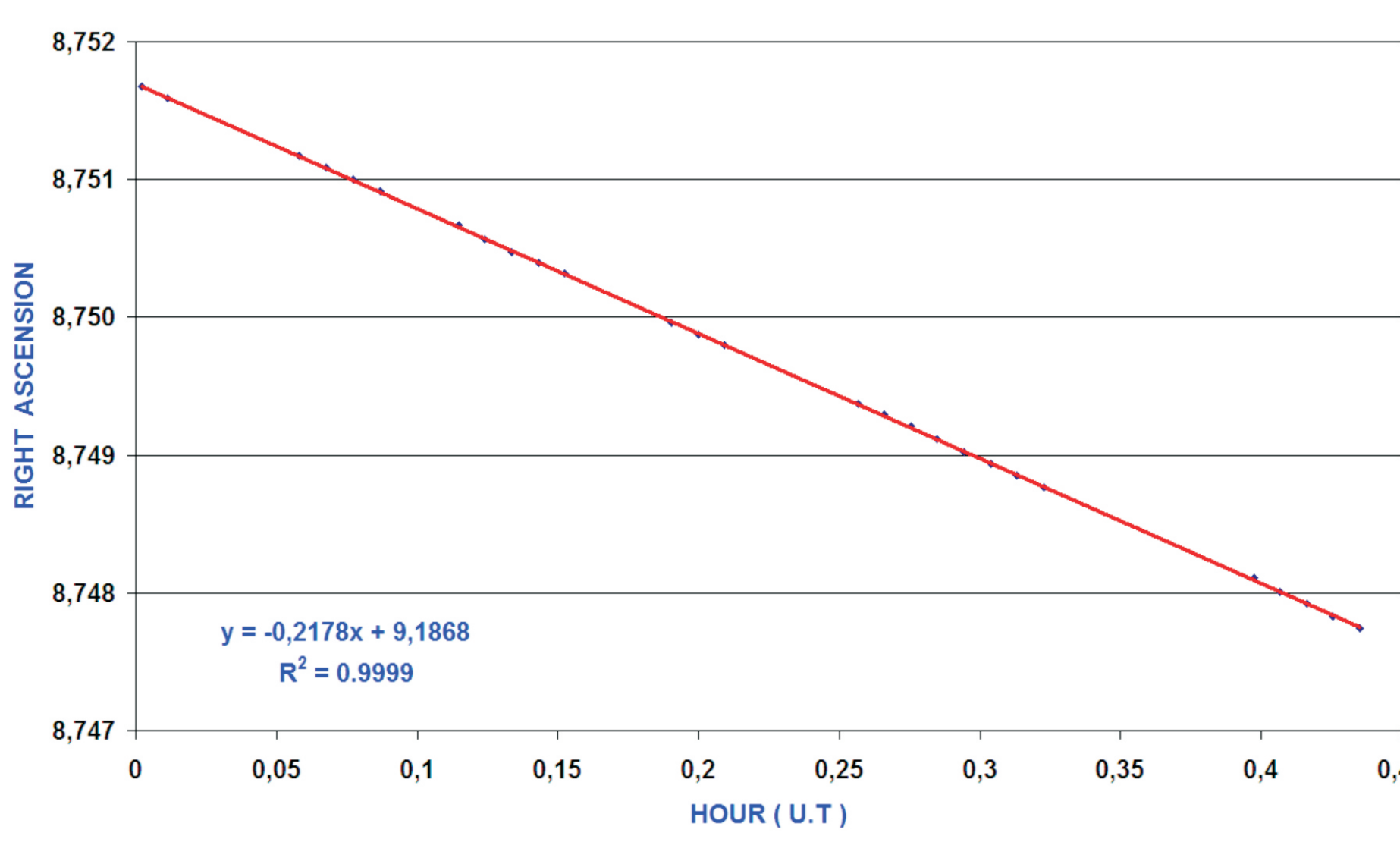
ASTEROID 2000 ET70 - MARCH 01 / 2012
 By: ALBERTO QUIJANO VODNIZA & UNIVERSITY OF NARINO OBSERVATORY PASTO - COLOMBIA



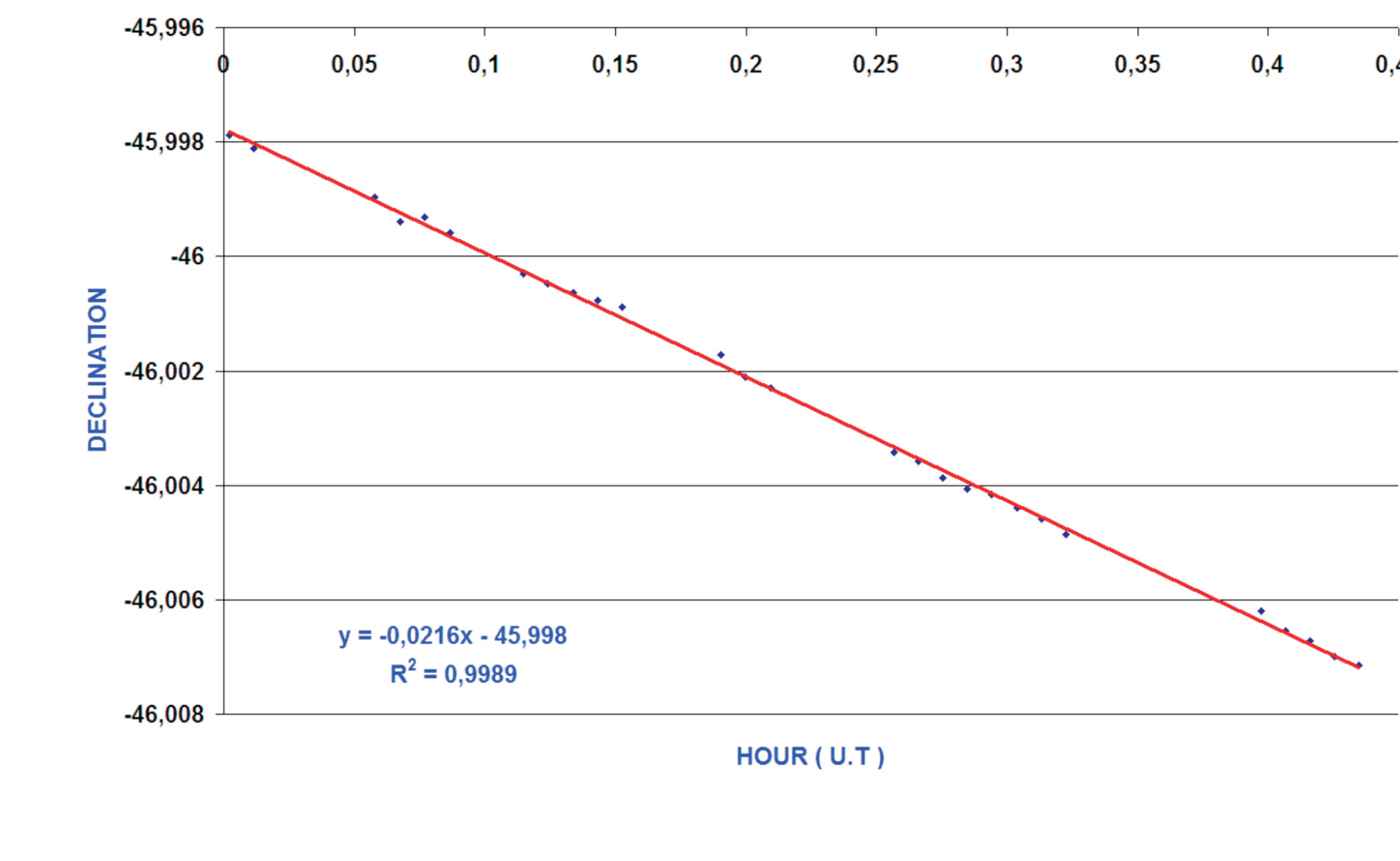
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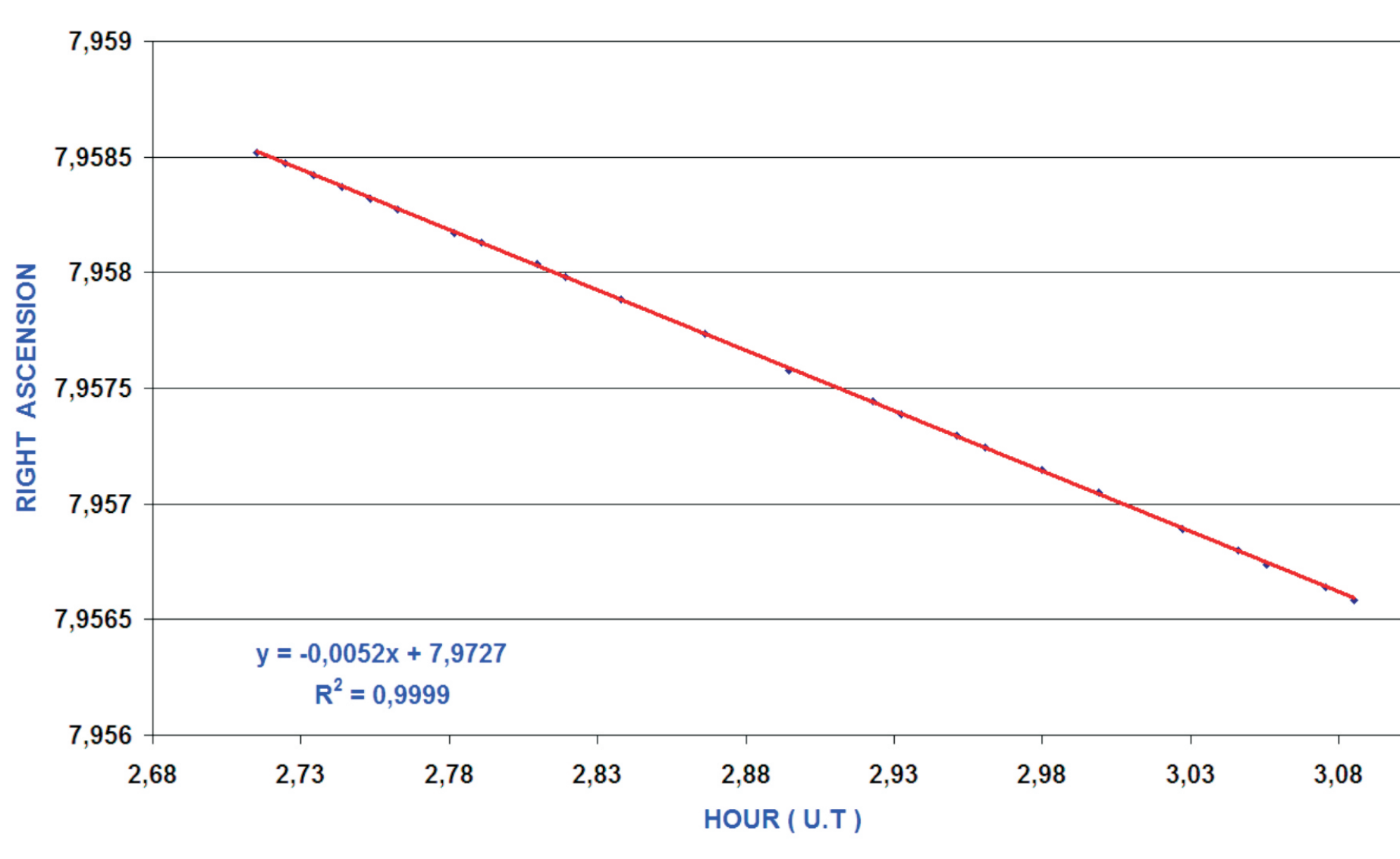
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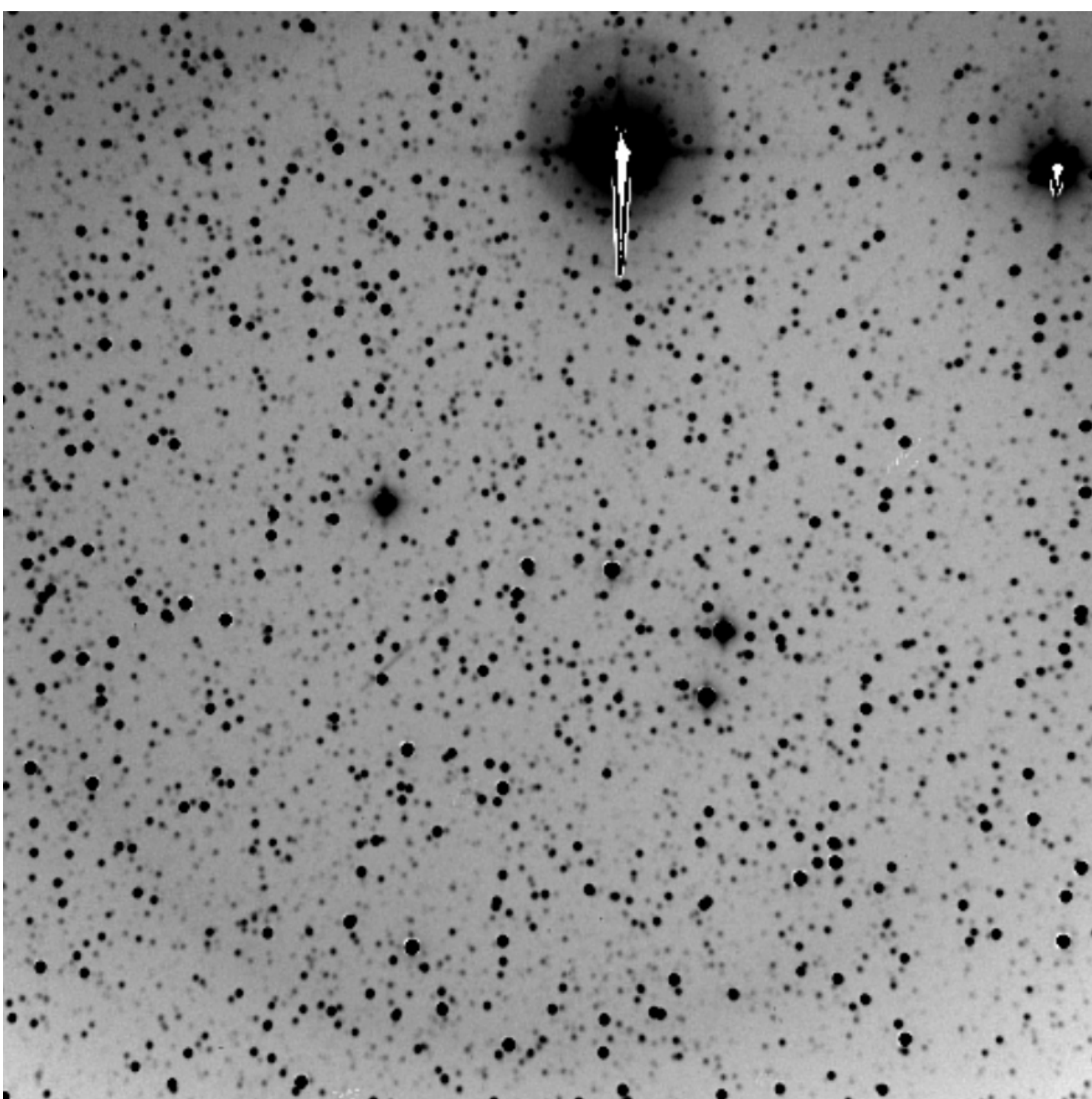
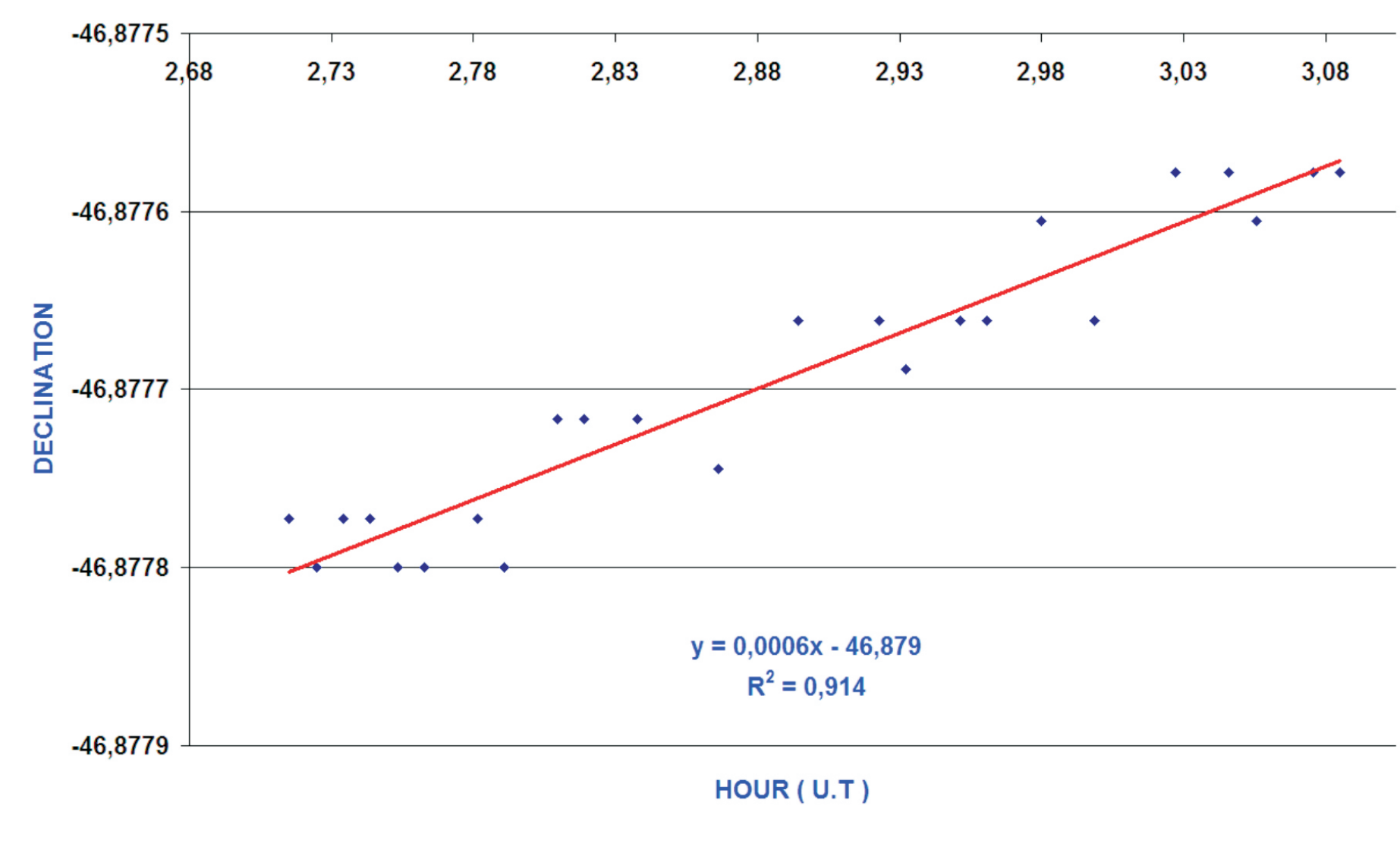
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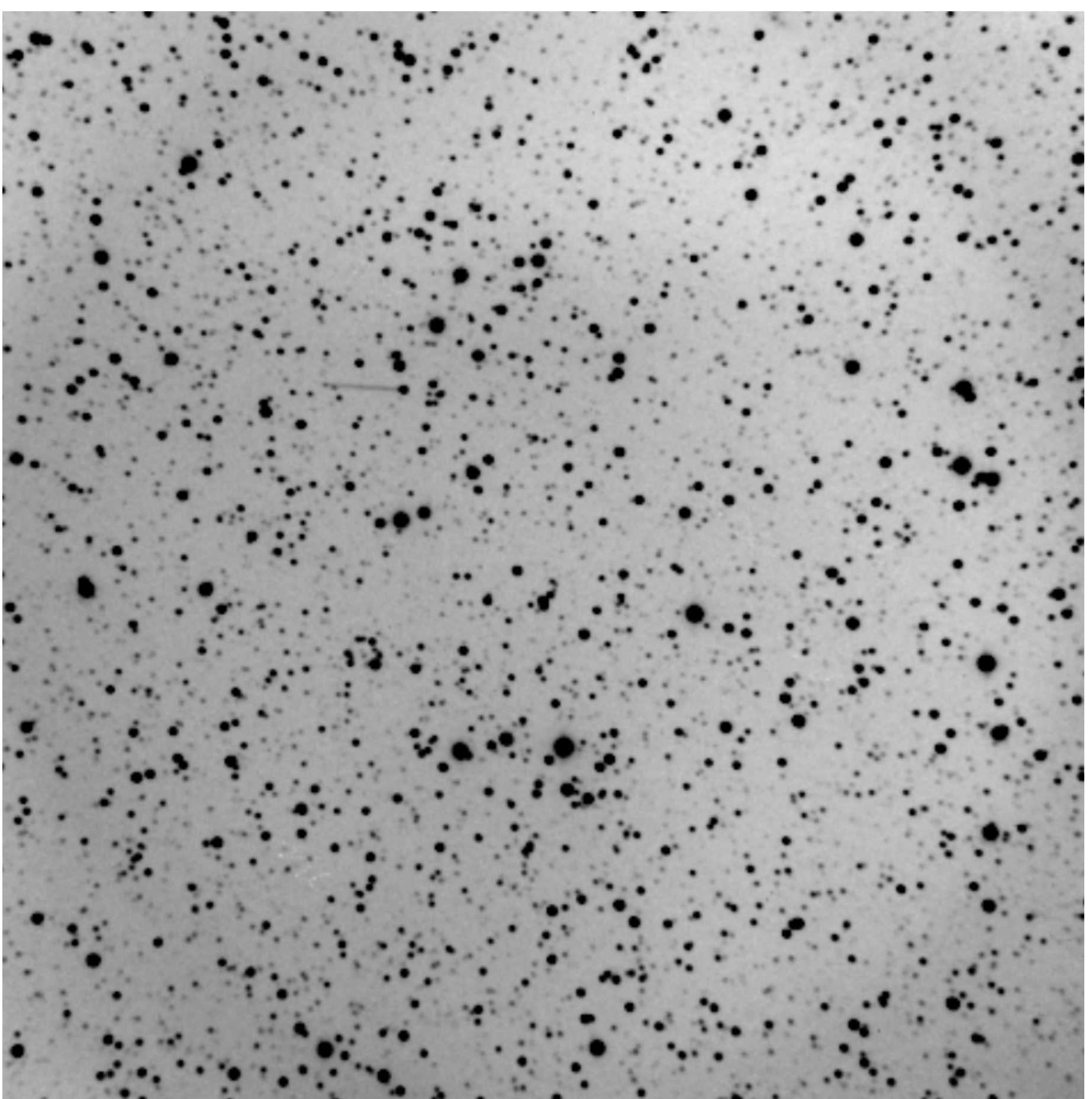
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ASTEROID 2000 ET70 Date: MARCH 02 / 2012 U.T
 By: ALBERTO QUIJANO VODNIZA & MARIO ROJAS P
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