United Nations ST/SG/SER.E/588

Secretariat

Distr.: General
30 June 2010
English
Original: French

Committee on the Peaceful Uses of Outer Space

Information furnished in conformity with the Convention on Registration of Objects Launched into Outer Space

Note verbale dated 22 January 2010 from the Permanent Mission of France to the United Nations (Vienna) addressed to the Secretary-General

The Permanent Mission of France to the United Nations (Vienna) presents its compliments to the Secretary-General of the United Nations and, in accordance with article IV of the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex), has the honour to submit information on space objects launched by France during the period from 1 January to 31 December 2009 (annex I), information on space objects registered by France that have re-entered the Earth's atmosphere during that period (annex II) and supplementary information on France's previously launched space objects (annex III).

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Annex I

Registration data on space objects launched by France*

A. Space objects launched by France between 1 January and 31 December 2009

				Basic orbital characteristics						*Remarks*	
Registration number	*Date of launch*	*Launch site*	*Type of launcher*	*Nodal period (minutes)*	*Inclination (degrees)*	*Apogee (km)*	*Perigee (km)*	*General function of space object*	*Ariane launch number*	*Launched space objects*	*State/ organization*
2009-008B	12 February	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 801	35 772	HotBird™ 10 satellite (redesignated Atlantic Bird™ 4A)	V 187	HotBird™ 10	France (EUTELSAT)
2009-008C	12 February	Kourou, French Guiana	Ariane 5 ECA	637	1	35 730	600	SPIRALE A satellite	V 187	SPIRALE A	France
2009-008D	12 February	Kourou, French Guiana	Ariane 5 ECA	637	1	35 720	600	SPIRALE B satellite	V 187	SPIRALE B	France
2009-008E	12 February	Kourou, French Guiana	Ariane 5 ECA	608	1	34 560	232	SYLDA inter-satellite structure	V 187	SYLDA	France
2009-008F	12 February	Kourou, French Guiana	Ariane 5 ECA	632	2	35 799	255	ESC-A cryogenic upper stage	V 187	ESC-A	France
2009-016A	3 April	Baikonur, Kazakhstan	Proton Breeze M	1 436	0	35 810	35 767	EUTELSAT W2A satellite	–	EUTELSAT W2A	France (EUTELSAT)
2009-026C	14 May	Kourou, French Guiana	Ariane 5 ECA		heliocentric orbit			ESC-A cryogenic upper stage	V 188	ESC-A	France
2009-026D	14 May	Kourou, French Guiana	Ariane 5 ECA		heliocentric orbit			SYLDA inter-satellite structure	V 188	SYLDA	France
2009-035B	1 July	Kourou, French Guiana	Ariane 5 ECA	594	6	33 936	152	ESC-A cryogenic upper stage	V 189	ESC-A	France
2009-044C	21 August	Kourou, French Guiana	Ariane 5 ECA	630	2	35 638	303	ESC-A cryogenic upper stage	V 190	ESC-A	France
2009-044D	21 August	Kourou, French Guiana	Ariane 5 ECA	630	2	35 628	300	SYLDA inter-satellite structure	V 190	SYLDA	France
2009-054C	1 October	Kourou, French Guiana	Ariane 5 ECA	630	3	35 657	277	ESC-A cryogenic upper stage	V 191	ESC-A	France
2009-054D	1 October	Kourou, French Guiana	Ariane 5 ECA	629	3	35 638	273	SYLDA inter-satellite structure	V 191	SYLDA	France
2009-058C	29 October	Kourou, French Guiana	Ariane 5 ECA	629	6	35 659	244	ESC-A cryogenic upper stage	V 192	SYLDA	France

* The registration data are reproduced in the form in which they were received.

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics: Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	General function of space object	Ariane launch number	Remarks: Launched space objects	Remarks: State/ organization
2009-058D	29 October	Kourou, French Guiana	Ariane 5 ECA	629	6	35 623	242	SYLDA inter-satellite structure	V 192	SYLDA	France
2009-065A	24 November	Baikonur, Kazakhstan	–	1 436	0	35 787	35 784	EUTELSAT W7 satellite	–	EUTELSAT W7	France (EUTELSAT)
2009-073A	18 December	Kourou, French Guiana	Ariane 5 GS	Polar orbit				Helios 2B satellite	V 193	Helios 2B	France
2009-073B	18 December	Kourou, French Guiana	Ariane 5 GS	Polar orbit				EPS upper stage	V 193	EPS	France

B. Space objects operated by foreign satellite operators that were launched by France between 1 January and 31 December 2009

Note: These space objects are not registered by France.

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics: Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	General function of space object	Ariane launch number	Remarks: Launched space objects	Remarks: State/ organization
2009-008A	12 February	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 792	35 781	NSS-9 satellite	V 187	NSS-9	Luxembourg
2009-026A	14 May	Kourou, French Guiana	Ariane 5 ECA	L2 Lagrangian point				Herschel satellite	V 188	Herschel	ESA
2009-026B	14 May	Kourou, French Guiana	Ariane 5 ECA	L2 Lagrangian point				Planck satellite	V 188	Planck	ESA
2009-035A	1 July	Kourou, French Guiana	Ariane 5 ECA	1 436	6	35 801	35 772	TerreStar-1 satellite	V 189	TerreStar-1	United States
2009-044A	21 August	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 793	35 782	JCSat-12 satellite	V 190	JCSat-12	Japan
2009-044B	21 August	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 802	35 772	Optus D3 satellite	V 190	Optus D3	Australia
2009-054A	1 October	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 805	35 767	Amazonas-2 satellite	V 191	Amazonas-2	Spain
2009-054B	1 October	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 800	35 773	COMSATBw-1 satellite	V 191	COMSATBw-1	Germany

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics: Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	General function of space object	Ariane launch number	Remarks: Launched space objects	Remarks: State/ organization
2009-058A	29 October	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 803	35 768	NSS-12 satellite	V 192	NSS-12	Luxembourg
2009-058B	29 October	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 794	35 779	Thor 6 satellite	V 192	Thor 6	Norway

C. Amendments to data on space objects previously registered by France

1. In the annex to the note verbale dated 28 January 2004 from the Permanent Mission of France to the United Nations (Vienna) addressed to the Secretary-General (ST/SG/SER.E/445), delete the following entries in table 1, “Data on space objects registered by France, 1965-1978”:

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics: Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	General function of space object	Remarks
1977 108 A	23 Nov. 1977	ETR, USA	Delta	1 438	14.6	35 583	35 773	Meteosat 1 meteorological satellite	
1978 071 A	14 July 1978	ETR, USA	Delta	1 449	14.6	36 057	36 020	GEOS-2 scientific satellite	

2. In annex III to the note verbale dated 29 March 2005 from the Permanent Mission of France to the United Nations (Vienna) addressed to the Secretary-General (ST/SG/SER.E/468), delete the following entry in table 3, “Space objects to be added”:

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics: Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	General function of space object	Remarks
1978 044 A	11 May 1978	Cape Canaveral, USA	Delta 2914	1 452.4	13.7	36 145	36 067	OTS2 telecommunications satellite	

Annex II

Information provided by France in conformity with article IV, paragraph 3, of the Convention on Registration of Objects Launched into Outer Space on space objects registered by France that re-entered the Earth's atmosphere between 1 January and 31 December 2009*

Registration number	*Date of launch*	*General function of space object*	*Atmospheric re-entry*
1991-075C	29 October 1991	Non-functional launcher element (Ariane 4, flight 47)	10 August 2009

* The registration data are reproduced in the form in which they were received.

ST/SG/SER.E/588

Annex III

Additional information provided by France in conformity with article IV, paragraph 2, of the Convention on Registration of Objects Launched into Outer Space on space objects registered by France*

Table 1
French satellites in a low orbit and still operational

Registration number	*Satellite*	*Type of orbit*
1995-033A	Helios 1A observation satellite	Polar orbit
1998-017A	SPOT 4 Earth observation satellite	820 km sun-synchronous
2001-055A	French-American Jason-1 oceanography satellite	1,330 km orbit inclined at 66°
2002-021A	SPOT 5 Earth observation satellite	820 km sun-synchronous
2004-025C	DEMETER scientific satellite	660 km polar orbit
2004-049A	Helios 2A observation satellite	Polar orbit
2004-049C	Essaim 1 satellite for characterization of Earth's electromagnetic environment	Polar orbit
2004-049D	Essaim 2 satellite for characterization of Earth's electromagnetic environment	Polar orbit
2004-049E	Essaim 3 satellite for characterization of Earth's electromagnetic environment	Polar orbit
2004-049F	Essaim 4 satellite for characterization of Earth's electromagnetic environment	Polar orbit
2004-049G	PARASOL satellite for characterization of the radiative and microphysical properties of clouds and aerosols	700 km polar orbit
2006-016B	CALIPSO satellite for three-dimensional characterization of clouds and aerosols	700 km polar orbit
2006-063A	COROT satellite for exoplanet detection	900 km polar orbit
2008-032A	French-American Jason-2 oceanography satellite	1,330 km orbit inclined at 66°
2009-073A	Helios 2B observation satellite	Polar orbit

* The registration data are reproduced in the form in which they were received.

Table 2
French satellites in geostationary orbit and still operational, with approximate orbital positions

Registration number	*Satellite*	*Orbital position*
1996-044B	TC 2D telecommunications satellite	8º W
1996-067A	W48 telecommunications satellite (formerly Eurobird™ 9, Hot Bird™ 2)	48° E
1997-049A	W75 telecommunications satellite (formerly Eurobird™ 4, Hot Bird™ 3)	75° E
1998-013A	Eurobird™ 16 telecommunications satellite (formerly Hot Bird™ 4)	16º E
1998-056A	W2 telecommunications satellite	16° E
1998-057A	Eurobird™ 2 telecommunications satellite (formerly Hot Bird™ 5)	25.5º E
1999-018A	W6 telecommunications satellite (formerly W3)	21.5º E
2000-019A	SESAT 1 telecommunications satellite	36° E
2000-028A	W4 telecommunications satellite	36° E
2000-052A	Eurobird™ 4A telecommunications satellite (formerly W1)	4° E
2001-011A	Eurobird™ 1 telecommunications satellite	28.5º E
2001-042A	Atlantic Bird™ 2 telecommunications satellite	8º W
2002-035A	Atlantic Bird™ 3 telecommunications satellite	5° W
2002-038A	Hot Bird™ 6 telecommunications satellite	13° E
2002-040A	Atlantic Bird™ 1 telecommunications satellite	12.5° W
2002-051A	W5 telecommunications satellite	70.5° E
2003-043A	Eurobird™ 3 telecommunications satellite (formerly e-Bird™)	33° E
2004-008A	W3A telecommunications satellite	7° E
2005-041B	Syracuse 3A telecommunications satellite	47° E
2006-007B	Eurobird™ 9A telecommunications satellite (formerly Hot Bird™ 7A)	9° E
2006-032A	Hot Bird™ 8 telecommunications satellite	13° E
2006-033B	Syracuse 3B telecommunications satellite	5° W
2008-065A	Hot Bird™ 9 telecommunications satellite	13° E
2008-065B	W2M telecommunications satellite	3° E
2009-008B	Atlantic Bird™ 4A telecommunications satellite (formerly Hot Bird™ 10)	7° W
2009-008C	SPIRALE A experimental satellite	–
2009-008D	SPIRALE B experimental satellite	–
2009-016A	EUTELSAT W2A telecommunications satellite	10° E
2009-065A	EUTELSAT W7 telecommunications satellite	36° E

Table 3
French satellites still in orbit but no longer operational

Registration number	*Satellite*
1965-096A	A1 experimental satellite
1965-101A	FR1 technological satellite
1966-013A	Diapason (D1-A) experimental satellite
1967-011A	Diadème 1 experimental satellite
1967-014A	Diadème 2 experimental satellite
1971-071A	EOLE experimental data collection satellite
1974-101A	Symphonie 1 experimental telecommunications satellite
1975-010A	Starlette scientific satellite
1975-077A	Symphonie 2 experimental telecommunications satellite
1983-058A	EUTELSAT I-F1 (ECS 1) telecommunications satellite (European Space Agency (ESA))
1984-081A	EUTELSAT I-F2 (ECS 2) telecommunications satellite (ESA)
1984-081B	TC 1A telecommunications satellite (satellite ceased operation on 9 September 1992)
1985-035B	TC 1B telecommunications satellite (withdrawn from service on 15 January 1988)
1986-019A	SPOT 1 Earth observation satellite (deorbiting manoeuvres effected in November 2003 to lower the satellite's perigee to below 600 km with a view to achieving re-entry within 25 years)
1987-078B	EUTELSAT I-F4 (ECS 4) telecommunications satellite (ESA)
1988-018B	TC 1C telecommunications satellite (satellite ceased operation on 13 February 1996)
1988-063B	EUTELSAT I-F5 (ECS 5) telecommunications satellite (ESA)
1988-098A	TDF1 live television satellite (satellite ceased operation in September 1996)
1990-005A	SPOT 2 Earth observation satellite (final deorbiting manoeuvres effected on 29 July 2009 to lower the satellite's perigee to below 600 km with a view to achieving re-entry within 25 years)
1990-063A	TDF2 live television satellite (satellite ceased operation on 1 June 1999)
1990-079B	EUTELSAT II F1 telecommunications satellite
1991-003B	EUTELSAT II F2 telecommunications satellite
1991-050E	SARA experimental microsatellite
1991-083A	EUTELSAT II F3 telecommunications satellite
1991-084A	TC 2A telecommunications satellite (withdrawn from service in November 2005)

Registration number	*Satellite*
1992-021A	TC 2B telecommunications satellite (satellite ceased operation on 23 June 2003)
1992-041B	EUTELSAT II F4 telecommunications satellite
1992-052C	S80T technological satellite
1993-031B	ARSENE amateur radio satellite
1993-061A	SPOT 3 Earth observation satellite
1993-061B	Stella scientific satellite
1995-016B	HotBird™ 1 telecommunications satellite (end-of-life operations performed in early 2007)
1995-033B	Cerise space-object technique and technology research satellite
1995-067A	TC 2C telecommunications satellite (end-of-life operations performed in October 2009; satellite ceased operation on 29 October 2009)
1999-064A	Helios 1B space-object technique and technology research satellite (final deorbiting manoeuvres effected on 21 October 2004 to lower the satellite's perigee to below 600 km with a view to achieving re-entry within 25 years)
1999-064B	Clémentine experimental satellite
2002-021B	Idefix amateur radio satellite (with third stage of Ariane V151 launch vehicle)