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[Virtual Space Library] <http://www.space-library.com/>

来訪閲覧可能な新着書籍類など, High Frontier Vol.2. No.1(U.S. Air Force Space Command), USU/AIAA Small Satellite

Conference 2005 発表論文要約、「日米宇宙政策アップデート」及びミルスペース・アーカイブなどを置いていますのでご利用下さい。

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2005.11.21 SPACE NEWS

**TopSat は英国が小型軍事衛星に関心を持っていることを反映**

**TopSat Refeels UK Interest in Small Military Satellites** Andrew Chuter, London

Britain took its first step forward the possible fielding of a low-cost microsatellite for the military with the Oct. 27 launch of the **TopSat** experimental spacecraft aboard a Russian Cosmos launch vehicle.

**TopSat** is due to go live Dec.8, providing high-resolution imaging for commercial applications as well as serving as a test bed for the military to gain experience in using microsatellites, according to QinetiQ project manager Bill Levett.

QinetiQ is leading the British effort with partners Surrey Satellite Technology, the Rutherford Appleton Laboratory (RAL) and Infoterra. The 14 million pound (\$24.9 million) program is jointly funded by the Ministry of Defence (MoD) and the British National Space Centre.

The project is funded for six months, but that could be extended if Infoterra successfully markets the imagery to non-U.K. commercial customers.

The British military is looking at using low-Earth-orbit microsatellites as part of a mix of assets that would provide persistent intelligence, surveillance, target acquisition and reconnaissance.

Interest in microsatellites is not confined to the United Kingdom. The Pentagon's **Office of Force Transformation** and the Naval Research Laboratory are due to launch early next year a tactical microsatellite experiment of their own, known as **TacSat**.

That effort is aimed at allowing cheap and quick launching of a variety of payloads to be controlled by theater forces.

**TopSat** is less overtly military than **TacSat**, but the ultimate aim of the British MoD would doubtlessly be similar to that of the Pentagon.

The launch of **TopSat** comes at a time of increasing British military interest in the use of space.

Within the last 12 months the MoD created for the first time a **Space Management Group**. That spawned a space working group looking at issues such as a space vision, policy, a development road map and a strategy. A space operations working group also is now active.

A little publicized document issued by the MoD earlier this year entitled "**The Future Air and Space Operational Concept**," spells out the British armed forces' view of the possible future use of space, including applications for microsatellites.

The document provides a vision of where the British want to go, but now how to get there. Nevertheless the enthusiasm for microsatellites is clear. Compared with large spacecraft, small satellites are simpler, quicker to develop and launch, and the capability gap between the two is rapidly diminishing, the document said.

Consequently, it says, "space capability could usefully contribute as an operational asset rather than a strategic one....

Commanders could call on responsive, gap-filling communications and novel space-based surveillance capabilities such as wide-area coverage and multi-spectral imaging and change detection techniques to help visualise the battlespace and provide situational awareness to aid decision-making."

Supporting that aim, an important part of the **TopSat** program is to investigate the dissemination of data from the satellite. QinetiQ is providing a light-weight, fully mobile data ground station, known as Rapids, which is able to deliver imagery in near real time.

The MoD is looking at a possible follow-on to **TopSat** and also is showing interest in the U.S. **TacSat** work, said a MoD source.

A spokesman for the MoD said Nov. 4 that they were interested in the U.S. **TopSat** concept, but were keeping an open mind about where they go next with the idea. "We don't have a signed-up program and we haven't set aside any resources and finances," he said.

The RAI-designed optical camera is able to collect 17- by 17-kilometer images of Earth with a **black-and-white** resolution of **2.5 meters** and a **color** resolution of **5 meters**. Resolution refers to the minimum size of ground objects that can be detected by the camera.

"The satellite was not designed as a military asset. They [the MoD]

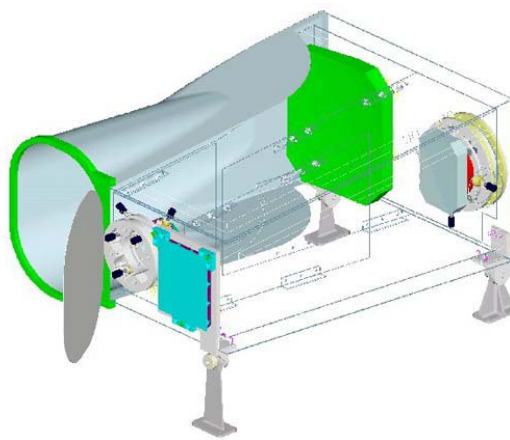
are using **TopSat** to evaluate how they could use a low-cost spacecraft.” Levett said. “Nevertheless, it offers a good commercial standard of imagery at a cost of hundreds of millions of pounds less

than could be provided by current large satellites.”



<http://www.sstd.rl.ac.uk/Topsat/Mission.htm>

<http://www.optisurf.com/item1.asp?ID=15>



**Camera for Topsat:** [http://www.qinetiq.com/home/commercial/space/space\\_missions\\_and/development\\_projects/topsat.html](http://www.qinetiq.com/home/commercial/space/space_missions_and/development_projects/topsat.html)

<http://www.space-technology.com/projects/Mosaic/Mosaic3.html>

**Focal Plane Array,      Layout of Optical System:**

**Table 1 . Design Parameters of the Baseline 2.5m GSD Camera System**

Camera Focal Length (mm)	1680
Ground Sampling Distance (m)	2.5 (from 600 km altitude)
CCD Pixel size ( m m)	7
Entrance Pupil Diameter (mm)	200
F/number	8.40
Camera Field of View	$\pm 1.2^\circ \times \pm 0.35^\circ$
Focal Plane Field of View	$\pm 35 \text{ mm} \times \pm 10 \text{ mm}$
Swath (km)	25 (from 600 km altitude)

Ground Speed (kms -1 )	6.908 (from 600 km altitude)
Time to travel one GSD ( m s)	362
Estimated SNR without Time Delayed Integration	48 (panchromatic 0.4-0.8 m m, Sun angle = 30 ° , Diffuse reflectance = 0.2.)
Instrument Size (mm)	677 × 600 × 300
Estimated Instrument Mass (including electronics) (kg)	32 Kg

[http://www.sstd.rl.ac.uk/Topsat/Technical\\_Information.htm](http://www.sstd.rl.ac.uk/Topsat/Technical_Information.htm)

2005.11.21 AW&ST

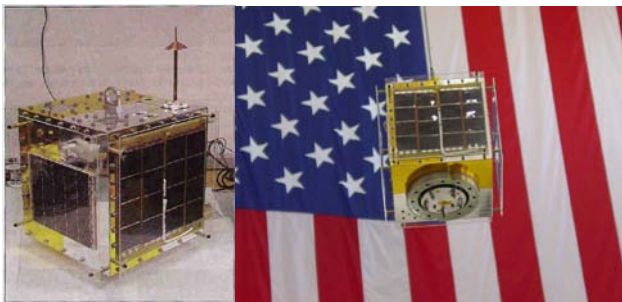
### FalconSAT が最終段階に

**FalconSAT on Final**, William B.Scott / Colorado Springs

Student-developed satellite ready to ride first **SpaceX Falcon** launcher this week

The launch of **FalconSAT-2**, a small satellite designed, built and tested by U.S. Air Force Academy undergraduates from ionosphere research, has slipped to Nov. 23. It will be the sole payload on the

inaugural flight of Space Exploration Technologies (SpaceX) Corp.'s **Falcon 1** booster from Omelek Island in the Pacific (AW&ST Aug.22, p.31) (後略)



写真右: <http://www.coloradosatellite.com/FalconsatII/FSIIQMTeting.htm>

2005.11.21 DefenseNews

### スパイ衛星の売出し、イスラエルは制限を緩め、マイクロサテライトを計画

**Spycraft for Sale, Israel Loosens Restrictions, Plans Micro-Satellites**

By Barbara Opall-Rome, Tel Aviv

Israeli war planners and defense industry executives are intensifying their pursuit of the civilian satellite market as the most effective way - and perhaps the only one - of realizing many of their military space ambitions. With ever-declining defense budgets forcing military space initiatives further into the out-years, Israel's Ministry of Defense (MoD) has lifted many of the restrictions that govern the export and transfer of crown-jewel technology. Earlier this year, MoD granted government-owned Israel Aircraft Industries (IAI) Permission to market clones of the nation's newest spy satellite, **TechSAR**, which is designed to carry a synthetic aperture radar payload, **TechSAR** is scheduled for launch in 2006. This approval, along with earlier licenses to sell sensitive imaging technologies

developed for Israel's **Ofeq** spy satellite program, mark a policy shift for the MoD, which for 20 years has cloaked its national space assets in secrecy. Moreover, MoD officials are encouraging other government ministries, including Industry and Trade and Science, Culture and Sport, to participate and fund ostensibly civilian projects that also contribute to national security. In a related shift, Israel's top two government-owned aerospace companies agreed to put aside their rivalry in space development to cooperate on a commercial satellite venture. In early October, IAI and Rafael Armament Development Authority launched **MicroSat**, officially aimed at commercial and scientific projects. But officials readily acknowledge its potential for furthering MoD's military space road map. The new

company will develop and sell satellite weighing less than 120 kilograms, a niche area that conveniently overlaps with MoD goals to build a constellation of military micro-satellites for intelligence and communications. Defense and industry officials here said sales and international cooperative projects secured by the new company can help underwrite advanced development and testing of micro-electronic and propulsion technologies hard-hit by persistent cuts to Israel's military space budget. In parallel, a government official said Israel's MoD continues to solicit strategic investors for a program based on a constellation of small, relatively inexpensive multimission satellites that can be launched on demand from fighter planes. As envisioned, the modular satellites will weigh no more than 100 kilograms and will be capable of housing a variety of so-called plug-and-play payloads. They will be deployed as a constellation, with particular missions divided among two or three satellites, so that the sum of the cluster exceeds the contribution of each spacecraft. "A constellation of micro-satellites – that's what we're looking at," said Nehemia Miller, a Rafael executive involved in negotiations with IAI to establish the new company. Miller said he hoped the new company would advance developments under way at Rafael associated with formation flying, including laser links that facilitate communication among the planned spacecraft. "We're looking at using small, cheap satellites with very advanced technology for a variety of applications," he said. Miller said MoD space programs could benefit from the commercially oriented IAI-Rafael industrial venture. "The line that used to separate military from civilian programs has been blurred for a long time now ... So while MoD is not involved at this time, it could be that, in the future, it will order

satellites from us," he said. Yossi Weiss, manager of the Space Division at IAI's MBT Group, said the new company would attempt to cultivate commercial uses for the type of micro-satellite constellation envisioned by MoD, "In the long term, our vision is to provide a constellation of micro-satellites whose contribution is far greater than any one of them," Weiss said. "But this is still in the research-and-development phase and could take 10 to 20 years to realize. We're going to need to do a lot of research in order to validate if there is truly a commercial market out there for this niche." Aby Har-Even, a former managing director of the Israel Space Agency, noted that aerospace industries worldwide traditionally try to maximize the complementary space programs. "This has been the trend in the United States, in France, in Russia and many other countries. It's the most effective way to maximize national space assets," Har-Even said. Already, the new IAI-Rafael venture has found way to leverage MoD investments for civilian purposes through its participation in Project Venus, a French-Israeli cooperative program aimed at precision agricultural imaging and environmental monitoring. Planned for launch in 2008, the Vegetation and Environment Monitoring New Micro-Satellite (**Venus**) mission will make use of the same bus developed by IAI for MoD's **TechSAR** satellite, as well as a low-thrust electric propulsion system developed by Rafael. IAI's Weiss said the new joint Israeli company expects to sign a contract soon with the Centre National d'Etudes Spatiales(CNES) partners with the Israel Space Agency on the **Venus** program. The agreement between CNES and the Israel Space Agency also calls for Israel's Elop Electro-Optics Industries to provide the multispectral imaging payload for the **Venus** mission.

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Nov 28, 2005      [Aerospace Daily & Defense Report](#)



**EADS 北米はネットセントリックの能力を強化するため訓練システムに着目している**

**EADS NA looking at training systems as boost to net-centric capability**

EADS North America is looking to move into the area of military training as a way of boosting its network-centric capability, company Chairman and CEO Ralph Crosby said. "The reason I like the training domain is these integrated training systems are the closest thing in the world to network-centric warfare without being a

network-centric warfare company," Crosby said in a meeting with Aerospace Daily & Defense Report and Aviation Week & Space Technology. "I believe that that's the step for us to take as we're transforming what EADS does in order to get more capability." (後略)

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Nov 28, 2005      [Aerospace Daily & Defense Report](#)

**NASA の予算, イランの追加条項に大統領署名**

## President signs NASA's budget, Iran amendments

President Bush on Nov. 22 signed into law bills containing NASA's fiscal 2006 budget as well as changes to the 2000 Iran Nonproliferation Act that would allow some U.S. payments to Russia in support of the International Space Station. The Senate on Nov. 8 agreed to the House's expanded version of changes to the Iran law that would allow NASA to pay to use Soyuz vehicles to reach the

ISS, as well as set a hard Jan. 1, 2012, cutoff for funds flowing to Russia (DAILY, Nov. 10). The House voted Nov. 9 to approve the House-Senate conference report for a bill funding NASA at \$16.5 billion, including \$60 million above the Bush administration's request for aeronautics, for a total of \$912.3 million.

Nov 28, 2005 Aerospace Daily & Defense Report

## 国防省は SBIRS-High の運命の決定近づく

### DOD nears decision on fate of SBIRS-High

The Pentagon is expected to decide next month whether the Air Force's Space Based Infrared System- High (SBIRS-High) program will be restructured or canceled due to cost overruns.

The Defense Department plans to conduct a highlevel review of the program Dec. 1, according to the Air Force. By Dec. 13, Pentagon acquisition chief Ken Krieg is due to determine whether the program will continue in its current form.

Program costs have risen more than 25 percent, triggering a Nunn-McCurdy provision requiring that the multibillion-dollar effort be either canceled or certified for continuation. To certify the program, DOD must conclude that adequate oversight is now in place, that SBIRS-High is vital to national security and that no acceptable alternative exists.

DOD has been conducting an analysis of alternatives to determine whether other options are out there (DAILY, Aug. 16). Loren Thompson, chief operating officer at the Lexington Institute, has speculated that it is too late to start over with a new system because the Air Force has built the last satellite for the missile-warning Defense Support Program, which SBIRS-High is designed to replace. But Thompson has said that scaling back SBIRSHigh's capabilities would likely be considered in the AOA because the cost increase is

just the latest in a series.

The Air Force has blamed the latest overrun on obsolete parts and the program's improper structuring in the 1990s (DAILY, March 23).

SBIRS-High calls for putting two infrared sensors on classified satellites in highly elliptical orbit (HEO) and launching four geosynchronous earth orbit (GEO) spacecraft.

Prime contractor Lockheed Martin delivered the HEO 1 payload in August 2004 and the HEO 2 payload in September 2005. Launches for the payloads are classified. Payload test

Lockheed Martin announced Nov. 23 that the first GEO 1 payload, developed by Northrop Grumman, has begun several weeks of thermal vacuum testing to verify that it can endure the extremely cold temperatures of space. Once that testing is done, about 90 percent of GEO 1 payload development activities will be complete. Lockheed Martin said several months ago that it has delivered the spacecraft core structure for the first GEO satellite, which is to be launched in fiscal 2008. The company is gearing up to deliver the spacecraft core structure for GEO 2.

Aerospace Daily & Defense Report Nov 28, 2005

## 12月の半ばには国防省は四年次防衛報告のレポート案を完了すると期待されている

### DOD expected to finish draft report on QDR in mid-December

QDR REPORT: The U.S. Defense Department is expected to complete a draft report on the Quadrennial Defense Review (QDR)

in mid-December, according to a DOD spokesman. Top

## 来年は THAAD 装置の初号機の発注が期待されている

### First THAAD equipment order expected in coming year

THAAD CONTRACT: Lockheed Martin, prime contractor for the

Terminal High Altitude Area Defense (THAAD) system, expects to

be awarded a U.S. government contract by the end of ...

## 2010年度までに連邦IT予算は\$77Bに達すると予測されている、コンサルティング会社

### Federal IT spending to hit \$77B by FY '10, group says

DOD LEADS: Research and Markets, an Ireland-based consulting company, believes that U.S. government information technology

spending will grow to \$77.2 billion by fiscal 2010, from \$60.5 billion ...

## 中国とESAは宇宙の研究分野でのつながりを強化

### China, ESA strengthen ties in space research

CLOSER TIES: China's national space administration and the European Space Agency have signed an intergovernmental

agreement for space cooperation. The deal will facilitate cooperation between ESA and ...

11月26日2時38分更新 産経新聞

## 高性能ソナー開発 防衛庁方針 日本近海で活発化 中国原潜出沒に新兵器

東シナ海の日中中間線付近や尖閣諸島周辺海域での中国軍潜水艦の活動が活発化するなか、水深の浅い同海域での潜水艦作戦能力向上のために、防衛庁が高性能の次世代潜水艦用ソナーの研究開発に着手することが25日、分かった。従来のソナーより探知能力の向上や省電力化、軽量化を図ることで、さらに音が静かになることが見込まれる中国潜水艦に対する優位性維持を狙う。平成18年度から研究に入り、21年度の完成を目指す。

防衛庁幹部によると、東シナ海の水深200mまでの浅い海域での中国潜水艦の活動は活発傾向を示しているという。

東シナ海では昨年11月、中国海軍の漢(ハン)級原子力潜水艦が日本の領海を潜航したまま侵犯。海上自衛隊の航空機やヘリによる追尾を受けながら潜航して逃走を続ける事件が起こっている。

防衛庁では、海上自衛隊が10年から就航させている潜水艦「おやしお」型に、艦の側面にもソナーを装備するなどして索敵能力向上を図ってきたが、「浅い海域での目標の探知、追尾、攻撃を効果的、効率的に実施するためにはあらゆる面での対潜戦技術の向上が不可欠」として、ソナーの研究に着手することにした。

研究は防衛庁技術研究本部が平成18年度概算要求に盛り込んでいる。主なポイントは、従来潜水艦に装備されていた円筒形の艦首ソナーをU字形に改良し、能力向上と省電力化を図るほか、側面ソナーも大型化し、「艦全体をソナー化させる」(防衛庁幹部)。これにより、音源探査の死角が解消されることが期待できるという。

また、浅い海域では音の乱反射によってソナー索敵能力に影響を与えるという。防衛庁は米軍と共同で浅い海域での音響データベースをつくっており、必要に応じこのデータをソナー開発に応用していくとしている。ソナー総開発費は約39億円を予定している。

このほか、防衛庁は浅い海域での攻撃能力向上のために、約155億円をかけて「新対潜用短魚雷」試作も実施している。現有の97式魚雷は、浅い海域ではソナーによる目標探知が難しかった。19年度からの技術試験を経て21年度開発完了を目指している。実用試験後は、海自水上艦や航空機への装備をめざし、東シナ海などの浅海域で行動する中国海軍の潜水艦への有効対処に役立てたいとしている。

◇

ソナー 相手の音を受けるパッシブソナーと、音を発生して反射によって相手位置を探知するアクティブソナーの2種がある。潜水艦では敵に位置を発見されないために、主にパッシブソナーを使用する。通常は自艦のスクリュ音などの影響を受けないよう艦首に装備されている。

11月26日4時1分更新 共同通信

## 制服組が長官を直接補佐 防衛庁、権限見直し

陸海空3自衛隊の統合運用開始を来年3月に控え、防衛庁は25日、現行統合幕僚会議議長から衣替えして自衛官(制服組)トップとなる統合幕僚長の権限を強化、これまで事実上、内局官僚(背広

組)に限っていた長官の直接補佐を制服組にも認め、制度化することを決めた。

長官命令起案についても制服組関与を拡大する。ミサイル防衛な

ど運用の時代に入った自衛隊の即応性を高める狙いだが、官僚による制服組統制を特徴とする戦後日本の文民統制(シビリアンコントロール)に変化をもたらすもので、議論を呼びそう。制服組権限見

直しは、事務次官ら内局幹部と統合幕僚会議議長、陸海空各幕僚長ら制服組幹部が出席した庁内の会議で、制服組の提案を受けて議論した。

11月26日14時0分更新 時事通信

### 「技術立国にとって意義」=松田科技担当相が談話

探査機「はやぶさ」が小惑星「イトカワ」で岩石試料採取に成功したとみられるとの報告に、松田岩夫科学技術政策担当相は26日、「科学技術創造立国を標ぼうするわが国にとって大変意義のある成

果」との談話を発表。同相は「はやぶさが順調に地球に向けて飛行し、約1年半後に今回採取した試料が回収され、さらに大きな成果が上げられることを期待している」と述べた。

11月26日13時54分更新 読売新聞

### はやぶさ、イトカワ再着陸…岩石採取装置も作動

宇宙航空研究開発機構(宇宙機構)の探査機「はやぶさ」が26日朝、小惑星「イトカワ」に再着陸。宇宙機構は岩石採取装置も確認、「岩石採取に成功した可能性が高い」と発表。

月以外の天体から岩石試料が地球へ持帰られた例はなく、小惑星の岩石採取の試みは世界初。イトカワから離陸したはやぶさは、12月に地球への帰途に就き、2007年6月に帰還する予定。

はやぶさは25日夜、イトカワに向けてゆっくり接近を開始。垂直降下中、約88万人の名前を刻んだ金属球「ターゲットマーカー」をイトカワの地表に見つけた。20日の初着陸の際、投下したもので、今回もこれを目印にした。

26日午前7時すぎ、イトカワに着地。同時に、長さ約1メートルのメガホン型の採取装置から金属弾(重さ約5グラム)を発射し、直後に上昇したとみられる。

岩石採取は、金属弾の着弾で舞い上がった岩石のかけらや砂ぼこりを、装置が取込み、奥のカプセルに収める仕組み。20日の初着陸時は起動しなかったが、今回は正常に働いたことが確認された。姿勢制御装置故障の障害を乗り越えて最大の任務を完了したはやぶさは現在、地球との交信を順調に続けている。無事地球に帰還できた場合、カプセルだけを大気圏に再突入させ、イトカワの試料を届ける。

小惑星は月や惑星と異なり、46億年前の太陽系誕生時の姿を化石のようにとどめているとされる。はやぶさが持帰る石は、太陽系の起源に迫る貴重な研究材料になると世界中から注目されている。

11月26日14時34分更新 読売新聞

### 「やった」研究者歓喜、睡眠削り成果…はやぶさ再着陸

日本の小さな探査機はやぶさが26日、3億キロかなたで大仕事をやってのけた。

小惑星に再着陸し、岩石採取に挑むという、世界に例のない離れ業。打上げから2年半余り、はやぶさを見守ってきた宇宙航空研究開発機構の研究者たちの中には、成功を確信した瞬間、笑顔と歓声があふれた。

26日午前7時過ぎ、はやぶさが着陸態勢に入り、地上との通信が制約される時間帯に入った。息詰まる管制室。その緊張が解けたのは、8時40分ごろ。通信が全面回復し、管制室画面に「WCT」という表示が現れた。岩石採取装置の作動を示す。「やった」「すごいね」。研究者たちの喜びは、インターネットを通じた管制室の中継で、世界中に伝わった。

米航空宇宙局とは比較にならないほど小さく、人員も少ない同機構宇宙科学研究本部(神奈川県相模原市)にとって、この1週間はまさに総力戦だった。20日の初挑戦では、着陸寸前に異常が発生。岩石を採取できないまま、灼熱(しゃくねつ)の地表に30分以上とどまった揚げ句、緊急退避によって100kmも遠ざかるという予想外の結果に終わった。

再着陸のチャンスは25～26日しかない。「高熱で機器が壊れていないか」「燃料が足りるか」――。管制室に詰めた研究者たちは、探査機の“体調”を気遣いながら、寝る間を惜しんで再挑戦の準備にあたった。

総力戦の成果が地球へ戻ってくるまで約1年半、管制チームの戦いは続く。

11月26日13時1分更新 時事通信

## 小惑星の岩石採取、成功＝世界初、07年地球回収―探査機「はやぶさ」・宇宙機構

宇宙航空研究開発機構は26日午前、探査機「はやぶさ」が地球と火星の間にある小惑星「イトカワ」に再着陸し、岩石試料採取装置を作動させたと発表。採取に成功したと考えられるという。小惑星の試料採取は世界初の試み。

はやぶさは12月上旬にイトカワをたち、2007年6月に地球近くに

戻る予定。岩石入りカプセルだけ大気圏に突入し、オーストラリアの砂漠に着地する。回収できれば、米アポロ宇宙船や旧ソ連の無人探査機が月の石を持帰ったのに匹敵する快挙となる。

小惑星は、太陽系が約46億年前に形成されたころの「化石」。岩石を分析すれば、当時の様子解明が進むと期待される。

11月26日13時4分更新 共同通信

### 小惑星の岩石採取 はやぶさ、世界初の快挙

宇宙航空研究開発機構(宇宙機構)は26日、探査機「はやぶさ」が同日午前7時すぎに地球から約2億9000万km離れた小惑星イトカワに着陸し、岩石採取のため金属球を発射したことを確認したと発表。

事前実験では金属球により舞上がった岩石破片は100%回収用カプセルに入っており、宇宙機構は「採取はほぼ確実」としている。小惑星から岩石試料採取するのは世界でも初の快挙。太陽の周りを2

周、約20億kmを旅した後の着陸成功は、惑星探査技術の確かさを裏付ける、日本の宇宙開発史上、画期的成果。はやぶさは降下から再上昇まで、一連動作をほぼ予定通りに完了。同日午前10時現在、小惑星から約5・2キロをさらに上昇。姿勢は安定し、地球との交信も確保され、着陸時のデータを順調に送信した。岩石がどの程度回収できたかは、はやぶさが2007年6月ごろに地球に近づき大気圏に投下するカプセルを開いて確認される。

26日11時0分 時事通信社

### 小惑星の岩石採取、成功＝「はやぶさ」



探査機「はやぶさ」が小惑星「イトカワ」に再着陸し、初の岩石試料採取を行ったことが分かり、管制室で明るい表情を見せる責任者の川口淳一郎教授

(中央)(26日、神奈川県相模原市の宇宙科学研究本部＝代表撮影)

11月24日20時31分更新 共同通信

### はやぶさは26日再着陸 初の岩石採取に挑戦へ

宇宙航空研究開発機構(宇宙機構)は24日、探査機「はやぶさ」を26日早朝に小惑星イトカワへ着陸させ、岩石試料採取に再挑戦すると発表。はやぶさは現在小惑星に向け再接近中。機体に損傷はなく、これまでのところ、着陸に支障は見つかっていないという。最終的に

センサ類が作動するか確認が必要だが、順調に進めば25日夜に最終的降下を開始し、着陸体勢に入る。着陸時に目印として落とす反射板付きボールはあと1つしかなく、また、燃料が少なくなったため、今回は最後の挑戦になる可能性がある。

11/23/2005 # 315 France in Space <http://www.france-science.org/home/page.asp?target=info-let&PUBLID=9&LNG=us>

a weekly synthesis of French space activities based on French press, provided by the CNES office in Washington D.C..

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#### - 1: 仏の COROT 衛星に対する高い期待

- 1: HIGH HOPES FOR FRANCE'S COROT SATELLITE

#### - 2: 欧州委員会は GMES 計画に対する集中分野を取上げ

- 2: EUROPEAN COMMISSION PICKS FOCUS AREAS FOR GMES PROGRAM

#### - 3: アルカテル・アレニア・スペースは DGA に SYRACUSE 3A の通信容量を引渡し

- 3: ALCATEL ALENIA SPACE DELIVERS SYRACUSE 3A TELECOM CAPACITY TO DGA



- 4: ESA 欧州宇宙機関は SWARM ミッションに EADS ASTRIUM を選定

**- 4: ESA SELECTS EADS ASTRIUM FOR SWARM MISSION**

- 5: アルカテル・アレニア・スペースは PUMA ステーションの装備を終了

**- 5: ALCATEL ALENIA SPACE FINISHES INSTALLATION OF PUMA STATIONS**

- 6: 要約 - 6: IN BRIEF

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- 1: 仏の COROT 衛星に対する宇宙科学の高い期待

**- 1: HIGH HOPES FOR FRANCE'S COROT SATELLITE**

The **Corot** (COnvection, ROTation et Transits planétaire) satellite is a CNES space-science mission scheduled for launch aboard an upgraded version of the Soyuz launcher in 2006. The satellite has a two-fold mission: to study the internal structure of stars and to detect earth-like planets outside our solar system from Space. To accomplish this task, **Corot** is equipped with a telescope and a high performance camera. The camera is comprised of 4 high-dimension, high-definition CCD captors; two dedicated to observing exoplanets and two to the observation of stellar seismology. **Corot** uses the CNES-designed Proteus satellite platform which was already selected

for the **Jason-1, Calipso, SMOS** and **Jason-2** satellites, and which is built by Alcatel Alenia Space. The satellite will be placed in a polar Earth orbit at 850 km and will observe the stars during a two and a half year mission. CNES has financed a large portion of the \$180 million program (this includes the construction, launch, ground facilities and three years of operation in orbit), with CNRS (the national scientific research center) and CNES' international partners (Germany, Austria, Brazil, Spain and Belgium) backing the rest. [Agence France Presse 11/19/05; Le Monde 11/19/05; Space News 11/18/05]

- 2: 欧州委員会は GMES 計画に対する集中分野を取上げ

**- 2: EUROPEAN COMMISSION PICKS FOCUS AREAS FOR GMES PROGRAM**

The European Commission announced November 14th that it will start **Global Monitoring for Environment and Security (GMES)** initiative by launching a series of pilot projects. Three focus areas have been chosen: emergency management, land monitoring and maritime services, which are intended to show the operational benefits of **GMES**. The emergency management portion of the program will aid in predicting and responding to natural disasters; the land monitoring service will aid in urban planning (among other things) through the mapping of Europe; the maritime service will monitor

oceans and climates both globally and regionally.

The announcement is seen as the Commissions way of showing its support of **GMES** and its desire to meet the 2008 deadline for having services in place. The services will be developed by ESA and funded by the EC. Approximately \$269 million have been earmarked to date while the entire space-based portion of **GMES** is estimated to cost \$3.74 billion euros. [Aviation Week & Space Technology 11/21/05; Space News 11/21/05]

- 3: アルカテル・アレニア・スペースは DGA に SYRACUSE 3A の通信容量を引渡し

**- 3: ALCATEL ALENIA SPACE DELIVERS SYRACUSE 3A TELECOM CAPACITY TO DGA**

DGA, the French defense procurement agency, already has access to two SHF channels (which can already be used by troops in the field) just one month after Alcatel Alenia Space launched the Syracuse 3A satellite. Alcatel Alenia Space's President and CEO, Pascale Sourisse, congratulated the company's ability to uphold its commitment to the DGA. **Syracuse 3A** was positioned in orbit in record time and it subsequently passed all its in-orbit tests successfully.

The next stage, which will last about a month, will involve system validation tests which will result in a system qualification review on December 13th. Conjointly, Alcatel Alenia Space is preparing for the integration of the **Syracuse 3B** satellite, which is proceeding correctly, and is set to launch in mid-2006. [Alcatel Alenia Space 11/16/05]

- 4: ESA 欧州宇宙機関は SWARM ミッションに EADS ASTRIUM を選定

**- 4: ESA SELECTS EADS ASTRIUM FOR SWARM MISSION**

The satellites for the **Swarm** mission, worth an estimated 86 million euros, will be built by an EADS Astrium's German-British team

within 48 months. The Swarm constellation will be made up of three satellites in polar orbits: two will fly side by side at an altitude of 450

km and a third will be placed at an altitude of 530 km. They are set to launch in 2010. The mission will provide detailed information on the geomagnetic field and its temporal evolution which should help scientists in their study of the Earth's interior and climate. The Swarm mission is also expected to have practical benefits as well, including better forecasting of radiation hazards in space and aiding in

- 5: アルカテル・アレニア・スペースは PUMA ステーションの装備を終了

#### - 5: ALCATEL ALENIA SPACE FINISHES INSTALLATION OF PUMA STATIONS

Alcatel Alenia Space has completed the installation of 51 weather data receiving stations in Africa as part of the **PUMA (Preparation for Use of MSG in Africa)** project which was launched by Eumestat and the European Commission in 1996. The weather stations will link 47 African countries to the **Meteosat Second Generation (MSG)** weather satellite providing state-of-the-art weather images every 15 minutes. This will aid in the prevention of natural disasters but the project can

- 6: 要約 - 6: IN BRIEF

ESA'S Director General, Jean-Jacques Dordain, and China's Administrator of the China National Space Administration (**CNSA**), Sun Laiyan, signed on Friday November 18th, an Intergovernmental Framework Agreement for space cooperation for peaceful purposes. This is the first such Framework Agreement that China has signed with ESA. Its goal is to booster cooperation between the two in areas such as space science, Earth observation, telecommunications,

the detection of new resources on Earth. **Swarm** is the next phase in magnetic field research and will take over from the **Champ** satellite which is due to end its run in 2008. CNES will provide innovative magnetometers for the mission. (cf. France In Space #310, article 3) [EADS Astrium 11/17/05]

also contribute to making food supplies more secure, to assuring the more efficient use of water and to enhancing transportation safety. Local meteorologists have been trained by Alcatel Alenia Space in how to analyze the data received and how to then send weather bulletins to aviation or maritime authorities. The project is financed by the European Commission through the European Development Fund. [Alcatel Alenia Space 11/17/05]

navigation and microgravity research. China and ESA already cooperate on various space projects such as the **Double Star** Program and the **Dragon Program**. [ESA 11/21/05]

For more information:

[www.esa.int/esaSC/120381\\_index\\_0\\_m.html](http://www.esa.int/esaSC/120381_index_0_m.html) (**Double Star**) and <http://earth.esa.int/dragon/> (**Dragon Program**)

2005年11月25日 8:00 【CNET Japan 2005/11/25】

#### 【今日のことば】

「中国ではアメリカ帝国主義に対する不信感が根強い。Linux は、米国企業が所有している製品ではないという点が入り込まれたので

----Redmonk のアナリスト、James Governor

・中国が模索する人民による人民のためのソフトウェア

<http://japan.cnet.com/svc/nt2?id=20091467>

ある。また、中国が共産主義国家であることも、オープンソースに有利に働いた」

#### [国際関係・一般]

日米防衛指針 額賀防衛庁長官 自衛隊海外活動「見直しを」格上げ次期国会で

毎日新聞 05年11月26日 朝刊 2面 3段 0447

防衛庁方針 中国原潜出没に新兵器 高性能ソナー開発 日本近海で活発化

産経新聞 05年11月26日 朝刊 1面 7段 図 0773

東京の中の米軍 新横田基地訴訟 控訴審判決を前に(中)＝米軍再編で増す重要性 住民ら基地恒常化に懸念

東京新聞 05年11月26日 朝刊 23面 6段 写 0947

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## [宇宙・航空・科学]

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宇宙航空研究開発機構の探査機「はやぶさ」 岩石採取実験に再挑戦

日本経済新聞 05年11月26日 朝刊 38面 1段 0728

宇宙航空研究開発機構の探査機「はやぶさ」降下開始

産経新聞 05年11月26日 朝刊 27面 2段 0860

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デジタルスパイス=山根一真 「はやぶさ」報道に理科離れを憂う

日本経済新聞 05年11月26日 朝刊 217面 3段 0767

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## [宇宙利用・宇宙からの観測・宇宙環境利用・宇宙実験]

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## [防災・環境・資源・エネルギー]

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宮城・利府町 ワークショップ開催 日中共同研究 太陽光熱発電 実用化へ課題検討

河北新報 05年11月25日 朝刊 29面 3段 写 1169

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## [技術・産業]

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豚クローン 鹿児島大成功 人の臓器移植に活路

西日本新聞 05年11月25日 朝刊 33面 3段 写 1308

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## [通信・放送・IT]

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TBSなど最終調整 民放4社でネット配信会社 「楽天回答」に盛る考え

読売新聞 05年11月26日 朝刊 1面 4段 0337

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## [経営・人]

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躍動インド経済 走り出す巨象(4) =エネルギー確保に不安 共同開発や投資に奔走(おわり)

朝日新聞 05年11月26日 朝刊 10面 4段 写図 0257

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## [航空輸送・エアライン]

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## [民間航空機関連 (ex-SJAC 三輪さん)]

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2005.11.25 09:01 朝鮮日報 [\[編注\]](#) 朝鮮日報の Web ページは小細工がしてあり、即ち画面をコピーできなくしてあります！

[新しいトッパガン誕生…高賢喆大尉](#)



[http://japanese.chosun.com/site/data/html\\_dir/2005/11/25/20051125000008.html](http://japanese.chosun.com/site/data/html_dir/2005/11/25/20051125000008.html)

空軍の戦闘機パイロットの夢と希望ともいえる「トップガン(TOP GUN)」に第 20 戦闘飛行団 121 戦闘飛行大隊の高賢喆(コ・ヒョンチョル/32/空士 45 期)大尉(航空自衛隊の一等空尉に当たる)が選ばれた。高大尉は先月、第 10 戦闘飛行団で行なわれた「2005 ポラメ空軍射撃大会」に出場し、「空の帝王」と呼ばれる「トップガン」に上りつめた。高大尉は、地上 6000m 上空から時速 1000km の速度で飛行しながら直径 1m の地上目標物を命中させる空対地射撃と空対空射撃で、2000 点満点中 1873 点を獲得した。かつて操縦していた F-5 戦闘機から 2002 年に KF-16 に乗換えた高大尉は、計 850 時間の飛行

時間を有しており、士官学校時代交換学生として米空軍士官学校で 4 年間勉強した。高大尉は「集中力を持って普段の訓練を実戦のように、大会当日は訓練のように射撃に臨んだことが良い結果をもたらしたようだ」と述べた。

これとともに今回の大会で空中投下部分では、チェ・ギュファン少領(航空自衛隊 3 等空佐に当る/空軍士官学校 39 期)と編組を組んで出場した空軍第 5 戦術飛行団 256 戦術飛行大隊所属の李知映(イ・ジヨン/27/空軍士官学校 51 期)大尉(航空自衛隊の一等空尉に当たる)が、女性パイロットとしては初となる優勝をものにした。

**[余談]** 先月の Ariane 5 の打上げ資料キットの表紙に面白いマークを見つけた。犬が立ちしょんをしており、周りに”The triumph of truth and technology over bullsht and bureaucracy”(「ナンセンス/ば

か と 官僚主義に対する真理と技術の勝利)と書いてあるのが読取れる。



この犬は SPOT という名でマスコットの人形も作られ、PanAmsat が米国で FCC の官僚主義と戦った時代のものだそうです。ご関心のある方は、

ロゴ: <http://www.panamsat.com/company/timeline.asp>

SPOT: [http://www.panamsat.com/company/about\\_spot.asp](http://www.panamsat.com/company/about_spot.asp)

SPOT アルバム: [http://www.panamsat.com/company/spot\\_photo\\_album.asp](http://www.panamsat.com/company/spot_photo_album.asp)

を御参照下さい。