THE ZOG-43

The Newsletter of NARHAMS, NAR Section #139.
NAR National Champions 2001, 2004

MARCH 2007 VOL 29 ISSUE 03

January Sport Launch

By Kevin Johnson

The January sport launch was originally supposed to be held on the 20th, but high winds forced a scrub that activated the back up date of the 27th. I was pressed into service as the launch coordinator and expected a fairly light day. The good news is that having the back up date well published and now a regular part of our schedule, many people knew about it and came out to fly.

I met Zog Bubbles at the field around 9am to collect the launch equipment that she picked up from the storage bin. It took us about 10 minutes to set things up (only 1 rack, and no PA due to the expected thinness of the crowd) and then Jennifer left to go work with a group of 4Hers. I retired to my car, put a battery for my RC plane on to charge, read a magazine, and waited.

A little after 10am the first fliers appeared, carrying their gear over from the parking lots. We had regular club fliers like Thomas and Eric Henderson, Alex Mankevich, and Roger and Matt Allen. Ian Barrie and his sister Aynslie flew their models several times while dad Gordon watched. Josh Izenburg was out making repeated flights, and Rob Edmonds came out later and was seen flying a teeny little glider on a big pod. Mike Kelly brought along a handful of his fabulously finished low power models to fly. We also had 2 TARC teams out making practice flights. The team of Lockheed Martin Explorers flew several different variations of single-motored BT-80 based models with different lengths, noses and fins. The Long Reach High School team was flying a BT-70 based model with a cluster. Some new fliers joined us, and flew multiple times. We even had a family come out to see the launch after reading Homer Hickam's article in the Parade Magazine last week. They said they followed the links from the article to the NAR site to our site and came out to watch.

The weather warmed up and the wind stayed low for most of the flying period. There were 3 rockets that got hung up in the higher trees towards the end of the day. Only one was in reach of the recovery pole. All in all a pretty good day. I have 28 flights that were logged, but I know that more slipped by. From the flight log and my memory, here are the motor totals:

While I launched many different rockets, I didn't fly a single one of my own.

I was able to get a couple flights in with my RC plane during the day when things were slow. After 2pm when the range had closed, Robert brought out his electric powered plane and we did some mock dog fighting.

Range tear down was quick and easy with lots of help. Jennifer and I headed into Frederick to drop things off at the storage unit and I was on the road home by 3pm. I think we had a good launch and the turnout was just what you'd expect for a Saturday in January. At least it didn't snow!

Themis/Delta II on the pad NASA Photo

ZOG-43

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ZOG-43 is the official newsletter of NARHAMS the National Association of Rocketry Headquarters Astro Modeling Section # 139

NARHAMS is the oldest model rocket club in the United States!

ZOG- 43 is dedicated to model rocketeers of all ages, abilities, and interest. We are committed to providing the most current, up-to-date information on model and real world rocketry, and to provide educational material as well as entertaining information. ZOG -43 is published monthly and is available to anyone on a subscription basis. Current rates are $10 for meeting pickup or email or $15 for postal mail U.S. Funds for 12 issues a year, payable to NARHAMS Material in ZOG -43 is not copyrighted. Free and unlimited reproduction is granted with the proper credit to the author and/or ZOG-43.

For more information.....

If you have any questions about ZOG-43 or NARHAMS, or if you have any comment(s), correspondence, free merchandise or if you'd like to submit an article, send them to :

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ZOG-43 is edited by Roy Lappalainen, and is an eight-time winner of the NAR/LAC "Rockwell" Trophy, recognized as the best NAR section newsletter.

Years won: 1969, 1973, 1975, 1990, 1991, 1992, 2003, 2004 & 2005

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NARHAMS ON THE WEB

http://www.narhams.org

Send and receive E-mail with other NARHAMS members through NARHAMS Web page grouplist via yahoo-groups.

NARHAMS serves Baltimore, the state of Md., Washington DC and the surrounding Metropolitan areas. The club is a section of the National Association of Model Rocketry (NAR) and we are the oldest continuously active model rocket club in the United States, first established as a high school club in 1963, changing our name to NARHAMS when chartered as a NAR section in 1965. NARHAMS is the only five time winner of the NAR "Section of the Year" award.

Years won: 1997,1998,1999, 2001, 2004 and 2006

NARHAMS members regularly fly their model rockets at NASA's Goddard Space Flight Center on Soil Conservation Rd. in Greenbelt Md. The launches are open to the public and are held the first Sunday of every month (weather permitting), starting at 1 PM.

Sport Launches are usually held the third Saturday of every month at Old National Pike Recreation Park near Mt. Airy Md. Check the web page for updates.

NARHAMS welcomes all prospective new members to our monthly meetings. They are held on the third Saturday of the month from 5:30 to 9:30 PM at the College Park Airport Annex Building. Dues are 10 cents a week, with an initial 50 cents up front (good for 5 weeks) as a sign of good faith.

NEW: Monthly meetings available on-line via chat-room , simply go to the NARHAMS homepage and click on the link.

Directions to College Park Airport:

Follow I-495 to Kenilworth Ave. South. Make a right onto Paint Branch Parkway, then make a right on Cpl. Frank S. Scott Dr. At the airport entrance go straight to the Operations Building, the annex building is adjacent to the "Ops" building.

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ARMED FORCES REVEAL UFO PRESENCE IN CHILE

By Cate Setterfield Santiago Times

(February 8, 2007) More than 1,000 enthusiasts and experts gathered in Viña del Mar on Tuesday and Wednesday this week for the Tenth International Ufology Conference, organized by the Chile's Ufology Investigation Group (Aion). The highlight of the meeting was a display of photographs taken by members of Chile's Armed Forces.

Ufology is the study of unidentified flying objects, or UFOs. While many ufology experts feel that the field is not taken seriously by scientists, participants at the conference in Viña del Mar said the presence of several members of the armed forces added legitimacy to the proceedings. Rodrigo Fuenzalida, director of Aion, said the military presence was important because of the well-known objectivity of their reports and the advanced technology that can be used to back up their observations.

The military photographs and videos were revealed late Tuesday evening. They included a photograph of a spherical metallic object captured flying over Antarctica and a video of Navy ships being pursued by a luminous object in 2000.

Also presented at the conference was a report by Rodrigo Bravo, Captain of the Army's Fifth Division, who talked to a rapt audience about his thesis, entitled "Observations of unidentified aerial phenomena identified by the Civil Air Force." While Bravo's talk was not technically representative of the institution's position on UFOs, he had been authorized to give it by his commander-in-chief.

"Captain Bravo gave his talk from the point of view of the importance of UFOs as a phenomenon," said Fuenzalida. "He talked about encounters such as that of three helicopters near La Unión, when a UFO was spotted parked on the ground, and what happened in 2000, when five people were pursued

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Madcow Rocketry Solar Express
www.madcowrocketry.com

THEMIS Mission to Provide New Understanding of Substorm Life Cycle

WASHINGTON - NASA's THEMIS, the Time History of Events and Macroscale Interactions during Substorms mission, is set to venture into space and help resolve the mystery of what triggers geomagnetic substorms. For the first time, scientists will get a comprehensive view of the substorm phenomena from Earth's upper atmosphere to far into space, pinpointing where and when each substorm begins.

Substorms are atmospheric events visible in the northern hemisphere as a sudden brightening of the Northern Lights. THEMIS also will provide clues about the role of substorms in severe space weather and identify where and when substorms begin.

THEMIS' five identical probes will be the largest number of scientific satellites NASA has ever launched into orbit aboard a single rocket. This unique constellation of satellites will line up along the sun-Earth line, collect coordinated measurements every four days, and be ready to observe more than 30 substorms during the two-year mission. Data collected from the five probes will pinpoint where and when substorms begin, a feat impossible with any previous single-satellite mission.

"For more than 30 years the source location of these explosive energy releases has been sought after with great fervor. It is a question almost as old as space physics itself," said Vassilis Angelopoulos, THEMIS' principal investigator at the University of California, Berkeley's Space Sciences Laboratory. "A substorm starts from a single point in space and progresses past the moon's orbit within minutes, so a single satellite cannot identify the substorm origin. The five-satellite constellation of THEMIS will finally identify the trigger location and the physics involved in substorms."

Researchers have long known that the sudden brightening of the Aurora Borealis, or Northern Lights, is generated when showers of high-speed electrons descend along the magnetic field lines to strike Earth's upper atmosphere. These lights are the visible manifestations of invisible energy releases, called geomagnetic substorms.

Scientists want to learn when, where, and why solar wind energy stored within Earth's magnetosphere is explosively released to accelerate electrons into the Earth's upper atmosphere. To find the answer, the five THEMIS probes will magnetically map the North American continent every four days for approximately 15 hours. At the same time, 20 ground stations in Alaska and Canada with automated, all-sky cameras and magnetometers will document the auroras and space currents from Earth.

"Many of NASA's future science missions will be constellations of satellites that will provide simultaneous, three-dimensional views of nature. THEMIS will give us a deeper understanding of the impact of the solar wind on the Earth and provide vital data for our manned explorations as they travel to the moon and beyond," said Frank Snow, THEMIS project manager at NASA's Goddard Space Flight Center, Greenbelt, Md.

THEMIS is set to launch in mid-February aboard a Delta II

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UFO Presence Continued

Fuenzalida denied the existence of "secret investigations" being carried out by the Armed Forces about extraterrestrial activity.

Also present at the conference was retired official Armando Valdés, who is noted for his involvement in one of Chile's first documented UFO abductions, which became known as the Valdés Case. On April 25, 1977, Valdés, along with five members of an army patrol, saw two bright objects descending from the sky. Valdés set out alone to investigate and, according to the men, simply vanished. Fifteen minutes later, they said, he reappeared, tried to speak and passed out. The date on his watch had been advanced five days, and he had about a week's growth of beard.

According to his comrades, when Valdes was beginning to regain consciousness he said: "You do not know who we are, nor where we come from. But I tell you that we will soon return."

Calendar of Events for 2007

Jan 06	05:30 – 10:00 pm	Monthly meeting, Helicopter Building
Jan 07	01:00 – 02:00 pm	Goddard public launch
Jan 20	10:00 – 02:00 pm	Sport Launch
Feb 03	09:30 – 01:00 pm	Cadet building session
Feb 03	05:30 – 10:00 pm	Monthly meeting, Scale discussion
Feb 04	01:00 – 02:00 pm	Goddard public launch
Feb 17	10:00 – 02:00 pm	Sport Launch
Mar 03	09:30 – 01:00 pm	Cadet building session
Mar 03	05:30 – 10:00 pm	Monthly meeting, Streamer/Spot Landing
Mar 04	01:00 – 02:00 pm	Goddard public launch
Mar 08-11		NARCON
Mar 17	10:00 – 10:00 pm	Sport Launch, HSQM-40
Apr 01	01:00 – 02:00 pm	Goddard public launch
Apr 07	09:30 – 01:00 pm	Cadet building session
Apr 07	05:30 – 10:00 pm	Monthly meeting, C-RG building
Apr 21-22	10:00 – 04:00 pm	ECRM-34, Sport Launch
Apr 29	09:00 – 04:00 pm	Rockville Science Consortium
May 05	05:30 – 10:00 pm	Monthly meeting
May 06	01:00 – 02:00 pm	Goddard public launch
May 19	06:00 – 06:00 pm	Team America Finals, Great Meadows, VA
May 19	10:00 – 40:00 pm	Sport Launch
Jun 02	05:30 – 10:00 pm	Monthly meeting, missile building session
Jun 03	01:00 – 02:00 pm	Goddard public launch
Jun 16	10:00 – 40:00 pm	Sport Launch, C-Cargo Copter fun event
Jul 01	01:00 – 02:00 pm	Goddard public launch
Jul 02	05:30 – 10:00 pm	Monthly meeting, UFO building
Jul 15		Goddard Contest
Jul 21	10:00 - 04:00 pm	Sport launch
Jul 28 -		NARAM-49
Aug 03		NARAM-49
Aug 04	05:30 – 10:00 pm	Monthly meeting
Aug 05	01:00 – 02:00 pm	Goddard public launch
Aug 18	10:00 – 04:00 pm	Sport Launch
Sep 01	05:30 – 10:00 pm	Monthly meeting, build "A rocket"
Sep 02	01:00 – 02:00 pm	Goddard public launch
Sep 15	10:00 – 10:00 pm	Sport Launch, night launch, R/C fun fly 2 pm
Oct 06	05:30 – 10:00 pm	Monthly meeting, Sputnik building session
Oct 07	01:00 – 02:00 pm	Goddard public launch
Oct 20	10:00 – 04:00 pm	Sport launch, FAI Practice
Nov 03	12:00 – 05:00 pm	Planning meeting
Nov 03	05:30 – 10:00 pm	Monthly meeting, glider building session
Nov 04	01:00 – 02:00 pm	Goddard public launch
Nov 17	10:00 – 04:00 pm	OPOSSUM-12, Sport launch
Dec 01	05:30 – 10:00 pm	Potluck Dinner
Dec 02	01:00 – 02:00 pm	Goddard public launch

Sport launches are held at Old National Pike Park from 10am-4pm, waiver up to 3.3 lbs and "G" motors not exceeding 62.5 grams of propellant. All flights "E" power and above are restricted to 5 degrees from vertical and Questions? Call Club President Jennifer Ash-Poole at 410-674-6262 or visit NARHAMS online at http://www.narhams.org

THEMIS Continued

rocket from Launch Complex 17-B at Cape Canaveral Air Force Station, Fla. For launch information, news media should contact George Diller, Kennedy Space Center, Fla., public affairs, at 321-867-2468 or Robert Sanders, University of California, Berkeley, at 510-643-6998.

THEMIS is the fifth medium-class mission under NASA's Explorer Program, which provides frequent flight opportunities for world-class scientific investigations from space within the heliophysics and astrophysics science areas.

The Explorer Program Office at Goddard manages the NASA-funded THEMIS mission. The University of California, Berkeley's Space Sciences Laboratory is responsible for project management, science and ground-based instruments, mission integration and post launch operations. Swales Aerospace, Beltsville, Md., built the THEMIS probes.

For more information about the THEMIS mission and imagery, visit:
www.nasa.gov/themis

NASA MOVES APOLLO 1 CAPSULE TO NEW STORAGE FACILITY

HAMPTON, Va. - NASA moved the Apollo 1 capsule and related materials approximately 90 feet to a newer, environmentally-controlled warehouse at NASA's Langley Research Center in Hampton, Va., on Saturday, Feb. 17.The move provides better protection for the spacecraft.

Despite routine repairs made throughout the years, the original secure storage container where the vehicle was housed has been deteriorating. NASA officials determined that, due to its age, the container could not be maintained effectively to preserve the capsule.

Astronauts Lt. Col. Virgil I. Grissom, Lt. Col. Edward H. White, and Roger B. Chaffee died when a flash fire swept through the spacecraft during a launch pad test at Cape Canaveral, Fla., on Jan. 27, 1967. Originally known as the AS-204 mission, it was renamed Apollo 1 in honor of the crew.

As directed by the Apollo 204 Review Board, the capsule has been maintained at Langley. The review board's accident report made recommendations that led to design and engineering changes and increased the overall safety for future Apollo missions and six successful lunar landings.

For more information on the Internet about Apollo 1, visit:

http://history.nasa.gov/Apollo204/

ECRM-34

April 21-22nd

B-Streamer Duration

A-Helicopter Duration

1/4A- Parachute Duration MR

C-Scale Altitude

Random Duration

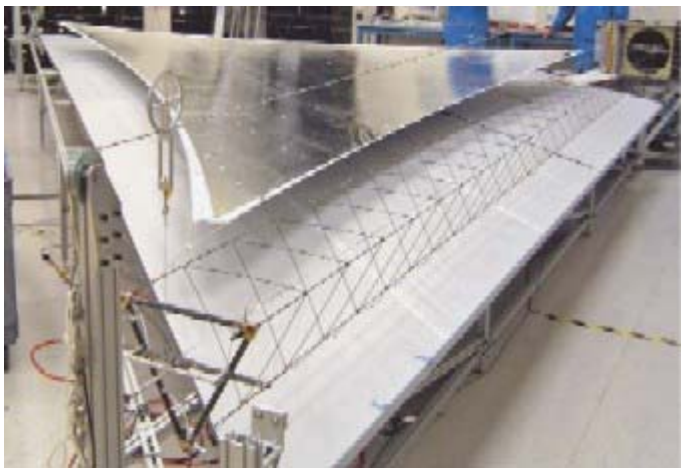
Rain Date April 28-29th

Even Solar Sails Need a Mast

By Patrick L. Barry

Like the explorers of centuries past who set sail for new lands, humans may someday sail across deep space to visit other stars. Only it won't be wind pushing their sails, but the slight pressure of sunlight.

Solar sails, as they're called, hold great promise for providing propulsion in space without the need for heavy propellant. But building a solar sail will be hard; to make the most of sunlight's tiny push, the sail must be as large as several football fields, yet weigh next to nothing. Creating a super-lightweight material for the sail itself is tricky enough, but how do you build a "mast" for that sail that's equally light and strong?



SAILMAST is the thin triangular truss in front of the picture. It is attached to a section of a silver foil solar sail section shown here in a laboratory test. The mast in the picture is 2m (6 ft) long. The Space Technology 8 mission will test the SAILMAST, which is 20 times longer.

Enter SAILMAST, a program to build and test-fly a mast light enough for future solar sails. With support from NASA's In-Space Propulsion Program to mature the technology and perform ground demonstrator tests, SAILMAST's engineers were ready to produce a truss suitable for validation in space that's 40 meters (about 130 feet) long, yet weighs only 1.4 kilograms (about 3 pounds)!

In spite of its light weight, this truss is surprisingly rigid. "It's a revelation when people come in and actually play with one of the demo versions—it's like, whoa, this is really strong!" says Michael McEachen, principal investigator for SAILMAST at ATK Space Systems in Goleta, California.

SAILMAST will fly aboard NASA's Space Technology 8 (ST8) mission, scheduled to launch in February 2009. The mission is part of NASA's New Millennium Program, which flight tests cutting-edge technologies so that they can be used reliably for future space exploration. While actually flying to nearby stars is probably decades away, solar sails may come in handy close to home. Engineers are eyeing this technology for "solar sentinels," spacecraft that orbit the Sun to provide early warning of solar flares.

Once in space, ST8 will slowly deploy SAILMAST by uncoiling it. The truss consists of three very thin, 40-meter-long rods connected by short cross-members. The engineers used high-strength graphite for these structural members so that they could make them very thin and light.

The key question is how straight SAILMAST will be after it deploys in space. The smaller the curve of the mast the more load it can support. "That's really why we need to fly it in space, to see how straight it is when it's floating weightlessly," McEachen says.

It's an important step toward building a sail for the space-mariners of the future.

Find out more about SAILMAST at nmp.nasa.gov/st8. Kids can visit spaceplace.nasa.gov/en/kids/st8/sailmast to see how SAILMAST is like a Slinky® toy in space.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

ZOG-43

NARHAMS Model Rocket Club Newsletter

ZOG - FORTY THREE
7OO CLIVEDEN ROAD WEST
BALTIMORE, MD 21208

Launch Schedule

PUBLIC LAUNCH
Goddard Space Flight Center
Visitors Center
1:00PM - 2:00PM

Mar 4th

HQSM-40/SPORT LAUNCH
Old National Pike
10:00AM - 04:00PM

Mar 17th

PUBLIC LAUNCH
Goddard Space Flight Center
Visitors Center
1:00PM - 2:00PM

Apr 1st

ZOG-43, THE *ONLY* NAR SECTION NEWSLETTER PUBLISHED *MONTHLY*!