

...47 years ago to the day:

Reds Orbit, Recover Space Man, Snatch Another Scientific First

Skeptics Feel Feat May Have Been Earlier

Moscow (AP) — A Russian astronaut has orbited the globe for more than an hour and returned safely to receive the plaudits of scientists and political leaders alike.

President Kennedy and U.S. space experts left behind in the contest to put the first man into successful space flight.

In Washington, Space Agency officials reported they have no information any U.S. tracking station ever picked up the Soviet space ship.



FIRST MAN IN SPACE — This is Russian Maj. Yuri Gagarin, whom the Russians rocketed around the earth and brought back safely.

Lincoln Evening Journal

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Nikita's Diplomacy May Grow Harder

Less Compromising Attitude By Soviet Chief Expected

Washington (AP) — Russia's latest space achievement is expected to harden the diplomacy of Soviet Premier Nikita Khrushchev and make him a more difficult man for President Kennedy to deal with.

Merit Plan On Judges Is Advanced

The first step in having district and supreme court judges selected by merit rather than by popular vote won strong endorsement in the Legislature Wednesday.

U.S. officials agreed privately that the launching and recovery of a man-carrying space vehicle is not only a historic feat but one which is certain to strengthen Khrushchev's determination to get his own way more and more on outstanding issues.

Already the lines of a diplomatic conflict are sharply drawn at many points. Examples include Laos, Berlin, disarmament and the United Nations.

Ever since Russia put the first man-made satellite into orbit more than 3 years ago students of Soviet affairs here have noticed a toughening

Muscovites Cheer Success



Soviet scientists watched Gagarin during his flight by television and he was in constant radio communication with a Russian control station, the Soviets said.

According to Tass, the Soviet news agency, Gagarin on landing said: "Please report to the party and government and personally to Nikita Sergeevich Khrushchev that the landing was normal. I feel well, have no injuries or bruises."

Soviet Premier Khrushchev replied with a message of congratulations telling Gagarin: "I feel well!"

More on Red Space Flight Pages 9, 13, 16, 39

Scientists Praising Soviet Space Feat NASA Director Declares Flight Splendid Achievement

Scientists throughout the world heaped praise on their Soviet colleagues who won the momentous race into space. Sir Bernard Lovell, eminent British scientist who heads Manchester University's Jodrell Bank Observatory, termed the successful orbiting of a man around the earth the "greatest scientific achievement in the history of man."

A NOTE TO ALL ABOUT DEADLINES AND ACTION ITEMS:

I have modified most of the deadlines to reflect realistic dates, given that we are already in the middle of June (we had several deadlines set for dates that are already passed).

- Minutes of Grasse meeting: **accepted**
- ILRS News (Pavlis)
 - GPS campaigns and network yield (from an average of 6 ranges per day to 26!)
 - Upcoming launches (JASON-2, GOCE)
 - Approval of LARES by ASI

- Stanford Event Timers call for calibration
- Upcoming meetings

- **UAW Summary, Action Items and Recommendations** – (Pavlis)

- Low-degree harmonics of the gravity field from SLR (degree/order 2): many ACs are ready to distribute them (**AC action item, July 15th**)
- FES2004 or GOT4.7 to be used as Ocean Tide Models with consistent loading components

- **BRIEF AC and CC Reports with emphasis on the 2003 IERS Conventions implementation in their s/w and procedures**

- ASI: the time series will be reprocessed with the updated Geodyn
- DGFI: the time series is ready, not delivered due to the LOD modeling problem.
- GRGS: series delivered

- **Reanalysis issues – 1983 – present:**

- New time series 1983 to 2007 will be submitted by the end of May (**AC action item, July 31st**)
- Core sites and biases update: Luceri presented a brief analysis of the mean and wrms of the coordinate residuals w.r.t. SLRF2005. Beijing site (7249) should be removed from the core site list. MLRO (7941) experienced a bias from February to October 2007 and a bias table will be distributed.
- J. Ries prepared a presentation (presented by Pavlis) on a reference frame to be used for altimeter orbit reprocessing. He suggested to revise the coordinates of a few sites not well represented in ITRF2005, and hence in SLRF2005. Luceri will check the possibility to use the estimates from the ASI multi-year solution, as done for the new sites not being in ITRF2005.
- Ties problem between GPS and SLR at some sites: Zimmerwald has a discrepancy of 15 mm, to be checked with the new v10 time series.

- **New AWG procedures and candidate members:**

- Bern University will apply to join the AWG. They are working on the Bernese SW upgrade to include the SLR data analysis capability, in joint cooperation with BKG. Dach presented the status of the project: a benchmark for DORIS was done and an agreement of 2 cm was found for the orbits computed by GSFC.
- Pavlis: proposal for a change in the procedure for new official ILRS ACs. After the first benchmark, 3 months as Associate Analysis Center without going into the official product. The benchmark test will be slightly modified to reflect the current official ILRS product and operations.

- **New/returning Station Qualification:**

- the process, to be approved by the GB; will foresee 3 ACs (ASI, DGFI and GRGS) evaluating the station. They will decide when and how (downweight or not) the station will be routinely analyzed by all the ACs. The AWG will decide when the eventual downweighting will be stopped and a message will be distributed by the CB to notify all ACs and AACs as well as the station.

- **Other products from Pilot Projects, Modeling issues, etc.:**

- Pavlis showed EOP differences from the mean of the daily “weekly solutions”, for the EOP corresponding to the 4th and 5th day in the 7-day arc. NEOS comparisons of the last day of the arc show higher than expected RMS wrt the NEOS predictions.
- Sciarretta: quality assessment of the daily product delivered after February 25th, comparison with the weekly product taking the last estimated day from the daily solutions, re-analysis changing the core-sites. The standard deviation of the residuals w.r.t. EOPC04 is doubled for the daily solutions.
- Kelm: analysis of the Helmert transformation

- **SP3c files:**

- ACs are invited to submit the SP3c orbit files as soon as possible. The files will be archived in the hidden directory at CDDIS (similar location exists at EDC). **The SP3c files will be in the same TRF as the weekly solution from the AC.**

- **CRD format:**

- The new data format is already being used in data delivered by MLRS. The station will deliver data in both formats until verified that the CRD data are acceptable, and once the data are validated by the AWG, the station will only deliver new format.
- A proposal was formulated by the AWG and the DF&PWG jointly, and was presented to the GB to outline the procedure to be followed by the stations, the OCs, the DCs and finally the ACs, in validating the CRD data delivered by the remaining sites in the network. The accepted proposal can be found in the GB minutes and eventually the ILRS web pages.
- ACs should be ready to use the new format within the end of June (**ACs action item, end of September**)

- **SLR biases, discontinuities, edits, etc.:**

- Pavlis proposed a slightly modified version of the DFI&GFZ format for the sinex files containing bias, discontinuities, edits. After some discussion, the revised version was adopted and will be used to generate the first release of that new ILRS product by DGFI.
- First release of the file by August, maintained by DGFI (**DGFI action item, end of July**)

- **Stanford ET corrections:**

- Appleby showed the results of the comparison of the Borowiec, Herstmonceux and Potsdam counters. Comparisons with the master (Hx) event timer were performed. Other sites have been invited to the calibration with only one response received so far (Beijing)

- **Lageos CoM for the ILRS network sites:**

- Appleby presented the main differences among the CoM correction depending on the system characteristics. The CoM correction for a single photon system is 245 +/- 1 mm, for a typical non-single-photon system is 248 +/- 2 mm. A table of corrections site by site was presented, values

depending on the energy level that the stations operate with. **(The table will be released through the ILRS web site and an email to AC/AAC lists).**

- **Next meeting:**

- Poznan, Poland, during the 16th ILW, on Sunday, October 12th, 2008 (all day).

- **Project Status - a “living document” matrix** (*maintained under the ILRS pages*):

Please visit: http://ilrs.gsfc.nasa.gov/working_groups/awg/awg_project_status.html

and: http://ilrs.gsfc.nasa.gov/working_groups/awg/Weekly_exist.html

These sites will help ACs and CCs track what is available for each week from contributors.

- **Action items from past AWG meetings**

✓ = DONE

Pavlis, Luceri ✓	new ITRF for SLR analysis
Luceri ✓	new list of core sites from SLR2005 for daily EOP referencing
Luceri ✓	contact stations to rationalize biases seen in the data analysis
Müller (H) ✓	exchange and compare bias estimates with Luceri
Appleby ✓	send Luceri the Potsdam Stanford ET corrections to test
Appleby ✓	contact Francis Pierron to test their Stanford ET
Müller (H), Pavlis ✓, Luceri ✓	exchange and compare orbits in SP3c format
Pavlis ✓	check with GA/Mt. Stromlo the reason for delayed submissions of data
Pavlis ✓	check with Noll that ONLY latest SINEX versions are online
Pavlis ✓	check with Noll and Seemüller to generate archive for daily submissions
Müller (H), Pavlis ✓, Luceri ✓	validate the SLRF2005 (final version)
ACs ✓	verify that your SINEXs are formatted correctly for daily submissions!!!
AWG ✓	re-assess AWG core stations status + general ILRS classification
CCs ✓	prepare for combination of SP3c files
ACs	prepare for new format (CRD) SLR data
ACs	include conversion of orbit solutions into SP3c format (step-size 2 minutes for LAGEOS; 15 minutes for Etalon)
Mareyen	<i>develop 2-day analysts get-together in Frankfurt (???)</i>
Müller (H), König	develop SLR discontinuities file further (1976-2007)
Müller (H)	develop validation plan for (new) SLR stations
Müller (Jürgen)	develop validation plan for (new) LLR stations
Pavlis	get letter expressing general support for ILRS activities from IERS chairman (is this really necessary by now???)

Pavlis, Luceri,
Pearlman, Gurtner

organize JoG special issue

Pavlis

check IERS procedure for station documentation after earthquakes and such

Pearlman

remind Simosato to become IGS station (done, no?)

Pavlis

datasets for the test on the models of atmospheric loading and gravity

Pavlis, Luceri

pilot project for the generation of a master bias list, etc.

Müller (H) , Luceri

Differences in CDDIS and EDC data file contents (examples)

ACs and CCs

work on generating daily submission of weekly solutions

Task Force I

homogenization of QC reports & development of a report with pos+eop use for stations and managers

Task Force II

develop a precise computation of the spacecraft CoM offset for given station-s/c configurations

New action items

- Low-degree harmonics of the gravity field from SLR (degree/order 2): many ACs are ready to distribute them (**AC action item, July 15th**)
- New time series 1983 to 2007 reanalysis to be submitted by the end of July (**AC action item, July 31st**)
- ACs are invited to submit the SP3c orbit files **as soon as possible (AC action item)**.
- ACs should be ready to use the new CRD format within the end of June (**ACs action item, end of September**)
- First release of the Biases, Edits, Discontinuities, etc. (BED) file by August, maintained by DGFI (**DGFI/Müller action item, end of July**)
- The LAGEOS CoM table and the Stanford ET table of corrections to be released through the ILRS web site and an email to AC/AAC lists (**ECP/Noll action item**).

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