

The Nature of the UCS Satellite Database Information

The UCS Satellite Database contains interesting and significant information about the active satellites currently on orbit. However, misconceptions abound about the nature of the data. Some of these misconceptions appeared in a recent article entitled “Spy satellite data put online by U.S. scientists,” by Kyoichi Sasazawa, in the *Yomiuri Shimbun*.¹ Here we address those misconceptions.

No confidential information has been used in the UCS Satellite Database, and none of the published data would be otherwise secret.

The data in the UCS Satellite Database come from public sources, with much of the information provided by the satellite owners themselves. Our goal is to include all active satellites in orbit, including those sometimes called “classified,” that is, satellites whose *current* orbital parameters are neither reported publicly by their operators nor appear in the Air Force’s Space-Track² catalog. Orbital parameters for these satellites did not come from classified sources, nor even from unclassified government sources.

The launch date, name, original orbital parameters, and purpose are available for almost all satellites from the United Nations Registry of Space Objects,³ to which the United States and all the other spacefaring nations are obliged to report space launches. Sometimes the information supplied is incorrect or missing, and in such cases the UN Registry includes information from sources other than the launching state. The United States maintains a “U.S. Space Objects Registry;”⁴ only a very few “classified” U.S. satellites in our database were not reported to either the U.S. Registry or the UN Registry, and the information on these satellites was available from other sources.

The statement in the *Yomiuri Shimbun* article that “Confidential data about two [Japanese] government spy satellites were found to have been published” in the Database is not true. While the two Japanese satellites discussed in the *Yomiuri Shimbun* article, IGS-1A and IGS-1B, were not reported by Japan to the UN Registry, they are listed in the UN Registry with information supplied by other sources. Moreover, the launch of these satellites and descriptions of their payloads were widely reported in the press, so this information cannot be considered “confidential.”

¹Sasazawa, K. 2006. Spy satellite data put online by U.S. scientists. *Yomiuri Shimbun*, March 21. Online at <http://www.yomiuri.co.jp/dy/national/20060321TDY02011.htm>, accessed 3/21/06. This link previously contained the English translation of the Japanese language article. The translated version was removed from the website after UCS notified *Yomiuri Shimbun* of the many inaccuracies in the article. However, the English language article was picked up by wire services.

² The public version of the catalog produced by the United States Space Surveillance Network can be accessed at <http://www.space-track.org>

³ The United Nations Convention on Registration of Objects Launched into Outer Space (<http://www.unoosa.org/oosa/en/SORegister/regist.html> accessed 4-21-06) of 1975 obliges its signatories to report for each object launched (including satellites and discarded debris from the launch) the basic parameters of orbital period, inclination, apogee, perigee and the object’s general function. Such information is to be provided by the United Nations to the public with “full and open access”. Currently, all the countries that can launch satellites (as well as the European Space Agency) are party to this treaty.

⁴ <http://www.usspaceobjectsregistry.state.gov/>

For the Database, we use the most recent values for the orbital parameters available in open source material, which includes data published on the internet by independent satellite observers. This was the source for the most recent IGS-1A and IGS-1B orbital parameters. Satellites are easily observable from the ground. If a country knows the location of another country's satellite, it is because it is watching just as the backyard enthusiasts do. This information is in plain sight and simply cannot be kept secret.

Additionally, the *Yomiuri Shimbun* article states that “Scientists from the Harvard Smithsonian Center originally decoded data from two space objects that had been published by the North American Aerospace Defense Command in the form of encrypted codes”. We note that as there are restrictions on republishing Space-Track data, we do not include them at all in the UCS Satellite Database.

However, it bears mentioning that the data provided through the Space-Track website are *not* encoded in any way, and are available free and freely after registering at the website. These data *are*, however, presented in the “two line element” (TLE) format, which, though quite commonly used, may not be interpreted simply by those unfamiliar with TLEs.

The UCS Satellite Database cannot be used to track satellites.

In discussing the UCS Satellite Database, the *Yomiuri Shimbun* article states incorrectly that “...by using this data, the satellites' exact locations over the Earth can be pinpointed.” As is clearly stated in the UCS Satellite Database User's Guide, the orbital parameters included in the database describe the orbit the satellite follows, but *cannot* be used to determine where the satellite is at any given time, nor can they be used to tell whether or not a particular satellite is overhead.