Circular No. 7589

Central Bureau for Astronomical Telegrams
INTERNATIONAL ASTRONOMICAL UNION

Mailstop 18, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.
IAUSUBS@CFA.HARVARD.EDU or FAX 617-495-7231 (subscriptions)
CBAT@CFA.HARVARD.EDU (science)
URL `http://cfa-www.harvard.edu/iau/cbat.html` ISSN 0081-0304
Phone 617-495-7440/7244/7444 (for emergency use only)

NOVA SAGITTARII 2001

William Liller, Viña del Mar, Chile, reports his discovery of a nova (mag 7.7) on Tech Pan photographs taken on Feb. 24.369 and 24.371 UT with an 85-mm camera lens (+ orange filter). His position for the variable star was measured from CCD frames obtained on Feb. 25.388 with a 0.2-m $f/1.5$ Schmidt camera: $\alpha = 17^{\rm h}54^{\rm m}40\overset{\rm s}{.}46$, $\delta = -26^{\rm o}14'15\overset{''}{.}2$ (equinox 2000.0). Nothing brighter than mag 11.0 appears at this location on photographs taken by Liller on Feb. 14. Liller adds that a low-dispersion CCD objective-prism spectrogram shows a broad Hα emission line ~ 3.3 times brighter than the surrounding continuum; broad emission features are also seen centered on 487.9 and 504.3 nm. Position end figures measured by J. Broughton, Reedy Creek, Queensland, from an unfiltered CCD image taken with a 0.25-m $f/6.6$ reflector on Feb. 25.710: $40\overset{\rm s}{.}43$, $15\overset{''}{.}8$ (mag 7.9).

K. Ayani and T. Kawabata, Bisei Astronomical Observatory, confirm Liller's variable to be a nova: "We obtained a low-resolution spectrum (instrumental FWHM = 0.6 nm; range 470–800 nm) of N Sgr 2001 on Feb. 25.88 UT with the Bisei 1.01-m telescope. Strong and broad Hα and Hβ emission lines and a broad emission feature at 784 nm (O I 777.3-nm plus perhaps Mg II 789.0-nm) are prominent. Fitting a gaussian, we estimate equivalent width 45 nm and FWHM = 4700 km/s for the Hα line."

2001 DO_{47}

The designation 2001 DO_{47} was given on Feb. 21 (cf. *MPEC* 2001-D28) to a fast-moving, apparently asteroidal object discovered by Spacewatch on Feb. 19 and that was clearly going to pass 0.0039 AU from the earth on Feb. 23. Nevertheless, the resemblance of the heliocentric orbital elements ($a = 1.010$ AU, $e = 0.0175$, $i = 0\overset{\rm o}{.}047$ at epoch 2001 Apr. 1; $H = 27.3$) to those of the earth suggested that the object might be a manmade object, a suspicion that was heightened when J. D. Giorgini and L. A. M. Benner, Jet Propulsion Laboratory, noted that the orbit seemed to have become elliptical with respect to the earth following a very close approach to the moon on 2000 Aug. 19. Furthermore, observations made during Feb. 23–25 showed a marked discontinuity from those of Feb. 19–22. J. McDowell, Harvard-Smithsonian Center for Astrophysics, has now identified the object as the WIND space probe. He confirms that an impulse was to be applied to the probe's motion on Feb. 23, following previous impulses shortly after earlier perigee passages in Nov. and in Aug. 2000, when the actual minimum distance from the center of the moon had been 9300 km. Intervening apogee distances have been around 0.011 AU.

