

1979

## New Astronomical Discoveries

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### Recommended Citation

Hoff, Darrel (1979) "New Astronomical Discoveries," *Iowa Science Teachers Journal*: Vol. 16: No. 1, Article 18.

Available at: <https://scholarworks.uni.edu/istj/vol16/iss1/18>

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9. Epoxy the outer races (surfaces) of the bearings to the base and upper support. Make sure that the rotor is free to turn. You may have to remove some material from the base and upper support by drilling to allow clearance for the inner race of the bearing and  $\frac{1}{4}$ " nuts on the end of the threaded rod.

### Conclusion

Take your masterpiece outside on a breezy day and see how well it works. If you are satisfied with its performance, you may attach a small  $1\frac{1}{2}$  volt DC permanent magnet motor to the shaft by using pulleys and elastic band belts. When the motor is spun fast enough it will generate enough electricity to light a  $1\frac{1}{2}$  volt light bulb.

Further information on the Savonius windmill may be obtained by referring to the Mother Earth News magazine and other periodicals, such as *Popular Science*, *Popular Mechanics*, and *Mechanix Illustrated*. *Wind and Windspinners*, by Michael A. Hackleman and David W. House, published by Peace Press, Culver City, California, is a very comprehensive source of information on the Savonius type windmill.

\*Reprinted from *Connecticut Journal of Science Education*. Vol. 14(2).

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### New Astronomical Discoveries

May 1, 1978, the *Astrophysical Journal* reported that M87 appeared to have a central mass concentration which could be interpreted as that of a massive black hole.

June 22, 1978, the U.S. Naval Observatory reported the discovery of a new moon orbiting Pluto.

July 1, 1978, the *Astrophysical Journal* reported the development of a new theory for the formation of galactic arms.

August 1, 1978, the *Astrophysical Journal* reported evidence that quasars possessing large red shifts must be at immense distances.

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