

Photo Credit—Dr. Ning Li

## Building an Anti-gravity Machine

The earth, moon, and stars all exert an invisible force called gravity. It is part of the glue that holds the universe together. If we could build a spaceship that could control the pull of earth's gravity, we could explore our solar system without rocket power, by tapping the gravitational forces of the sun, moon, and neighboring planets.

To understand how our star engine would work, let's name our spaceship after Newton's famous apple. When we turn on our engine, our *Apple* falls away from our earth as it is attracted by the gravitational pull of our moon.

To reach our destination we use the moon's gravity to launch our vehicle. When the moon's pull can no longer help us speed toward our destination, we use our engine to cancel the moon's gravity so that our spaceship, *Apple*, falls toward the gravitational pull of another celestial body.

As impossible as this engine sounds to most scientists, researchers at NASA's Marshall Manned Space Flight Center in Huntsville, Alabama, are performing the scientific research to determine the feasibility of building such a machine (see Fig. 1). In

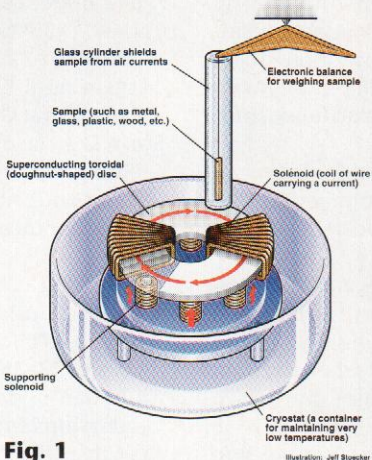


Fig. 1

(Left to right) Whitt L. Brantley, NASA.MFSC, Dr. Ning Li, Senior Research Scientist, UAH, Tony A. Robertson, NASA.MSFC.

1989, Marshall Manned Space Flight Center scientific theorist Dr. Ning Li theorized that a superconductor rotating very fast, in a very strong magnetic field, could alter the force of gravity in its surrounding area.

In 1992, Dr. Eugene Podkletnov, while on leave from the Moscow Chemistry Science Research Center and working at Tampere University in Finland, performed an experiment paralleling Dr. Li's research. For four years, Dr. Podkletnov performed experiments where he suspended objects over a super-cooled superconductor disc. The disk

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