

# Sci-Tech Updates

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## Kepler Spacecraft Finds New Breed of Planets

Aug. 27—The discovery by the *Kepler* spacecraft of multiple planets orbiting a Sun-like star was announced on Aug. 24: two are approximately Saturn-sized, and one, still to be confirmed, may not be much larger than Earth. This is not the first solar system outside our own to be observed, but it is the first with planets that change their orbital period each time they go around the star, apparently in gravitational resonance with each other. It is also the first multiple find using the transit method.

The transit method measures minute periodic fluctuations in the light of a star, as a planet passes (“transits”) in front of it, as seen from Earth.

Matthew Holman, principal author of the scientific paper on the find, says the variations are oscillatory, and close to a 2:1 ratio. This kind of orbital resonance is seen in the relationship between Neptune and Pluto. He expects that ratio will be maintained, as the orbits vary.

The first extra-solar planets were discovered 15 years ago, and now more than 400 have been confirmed. The technology has not existed, until now, to find planets as small as Earth. But this week, scientists at the European Southern Observatory announced that they have found what might be a seven-planet system, which may contain a planet just 1.5 times the mass of the Earth.

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## Vietnam Trains Labor For Nuclear Sector

Aug. 29—Vietnam, which is leading the countries of Southeast Asia in the race for nuclear power, has approved a US\$154 million plan to train and develop a skilled workforce for the nuclear power sector over the next ten years.

The country has already decided to build two nuclear power plants in the province of Ninh Thuan, with a capacity of 4,000 megawatts by 2020, and six additional plants will be constructed in by

2030. The initial two plants will be built by Russia, and several other nations, including Japan, are competing to build the subsequent plants.

The government said in a statement released Aug. 21: “Atomic energy can also be used in the health-care sector, industry, agriculture and other economic sectors. Thus, there will be a shortage of human resources to work in the field. The plan is expected to help Vietnam develop human resources in tandem with its atomic capacity.”

Vietnam plans to train 2,400 nuclear engineers, and issue 350 PhDs and masters degrees for those operating nuclear power plants, all within Vietnam. Two hundred engineers and 150 of the graduate students will be trained abroad.

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## South Africa, China Discuss Nuclear Goals

Aug. 24—South African President Jacob Zuma is discussing the possibility of cooperating with China in nuclear energy, during his current trip to Beijing. South Africa, which is suffering a severe shortage of electricity, has 2.5 million households with no electric power at all. South Africa’s one nuclear complex, made up of two reactors at Koeberg, provides 5% of the country’s electricity. It is the only nuclear power plant in all of Africa.

The state utility company, Eskom, had planned to build a new nuclear reactor complex in South Africa, but accepting bids from reactor vendors for new units was halted in 2008, when the government decided that the plants were too expensive. Earlier this year, all work was stopped on South Africa’s groundbreaking high-temperature Pebble Bed Modular Reactor project (PBMR). Instead, under pressure from “greenies” and incompetent economic policymakers, South Africa is spending millions on solar panels and other such idiotic projects.

But many South African leaders realize that nuclear is essential, and the Department of Energy has pledged to restart effort to secure new nuclear pow-

er plants. Earlier this month, Johannesburg held talks with Moscow; accepted a draft memorandum of understanding with Brazil; and in May, signed a nuclear cooperation agreement with Algeria.

The nuclear discussions with China, however, importantly include financial institutions. The Standard Bank Group is to sign a memorandum of understanding with Industrial & Commercial Bank of China, to promote nuclear cooperation. The two banks have been involved in discussions between China Guangdong Nuclear Power Company and the South African government. This could lead to financing arrangements for South Africa to import Chinese nuclear plants. Transfer of Chinese nuclear technology is also under discussion with China National Nuclear Corp.

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## Popular Support for Nuclear in South Korea

Aug. 29—The Korean Nuclear Energy Foundation, a research body of South Korea’s Knowledge Economy Ministry, reports that in a survey of 800 Koreans, 88.4% said that the development of the nuclear industry is necessary, while 61.1% are in favor of constructing more nuclear reactors in South Korea. The South Korean *JoonAng Daily* reported the story. This is a significant growth of support for nuclear since the last poll was conducted six years ago.

According to the government authorities, the support for the nuclear power industry has been rising since the country’s successful bid to construct four APR1400 reactors in the United Arab Emirates (U.A.E.).

The Korean Knowledge Economy Ministry commented: “The recent survey shows that exporting nuclear power plants is not only beneficial to the Korean economy, but it also raises the interest and trust of the Korean public in the overall nuclear industry. Korea’s nuclear power export industry should be seen as a net growth engine, and the government will continue to promote awareness among the public.”