SpaceNukes
Space Nuclear Power Corporation

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Space Nuclear Power Corporation Partners with USSF Space Strategic Technology Institute at the University of Michigan to Develop Nuclear Electric Propulsion

Space Nuclear Power Corporation (SpaceNukes) has been selected as a commercial partner to design and develop an advanced fission reactor for the Space Power and Propulsion for Agility, Responsiveness and Resilience (SPAR) Institute. The SPAR Institute is led by the University of Michigan under the US Space Force University Consortium's Space Strategic Technology Institute 3 for Advanced Space Power and Propulsion. A primary goal of the effort is to develop vehicles that can "Maneuver Without Regret". The key technology being pursued by the Institute is Nuclear Electric Propulsion (NEP), which couples a nuclear reactor power system with electric propulsion technology. An NEP spacecraft can produce thrust 5- to 25-times more efficiently (thrust / unit mass) than traditional chemical rockets, thus allowing a superior capability to maneuver with less concern about running out of propellent.

Space Nuclear Power Corporation is uniquely positioned for SPAR as the only US company with experience designing, building, and testing a new reactor concept in the past 50 years. In 2018 the KRUSTY test demonstrated SpaceNukes' Kilopower reactor power system, which is a ready-to-fly technology that can enable numerous missions on the Moon, Mars, and in deep space.

In collaboration with students and faculty at the University of Michigan, SpaceNukes will be developing a 2nd-generation reactor technology that will provide game-changing capability for both civilian and defense purposes. The key attribute of 2nd-generation technology is higher reactor and radiator temperature, which provides much lower mass and smaller size than a solar array of similar power. A lighter, more compact profile provides easier deployment, increased agility, and better protection from adversarial detection and threats.

About SpaceNukes. The Space Nuclear Power Corporation is the world leader in space fission technology. The SpaceNukes team designed, built, and ground-tested the 1-kW KRUSTY reactor for NASA in 2018. They are working with the Space Force on a 12 kW Kilopower design and are working toward a flight demonstration. In parallel, SpaceNukes are working to commercialize nuclear energy for power, heat, and electric propulsion to serve the needs of the new space economy.

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