Control Algorithms Charge Batteries Faster

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NASA Technology

- Spacecraft on long missions, like NASA's MESSENGER sent to Mercury, are powered by solar/battery hybrid systems
- Weight and size are key considerations: A spacecraft needs enough equipment to power its systems, but every extra pound of weight adds significant costs

Partnership

- Through Small Business Innovation Research (SBIR) contracts with Glenn, ApECOR devised a three-port power converter for space systems
- The control algorithms that direct energy use and storage help minimize the size and weight of the overall spacecraft power systems

Benefits

- ApECOR's X-90 Solar Charger uses the NASA-derived control algorithms to efficiently charge batteries from solar or other power sources
- It charges 30 percent faster than similar devices
- Future potential applications include providing power to farms in developing countries and the remote operation of irrigation pumps