

Silicon-Air Battery Technologies

Silicon–air batteries are a new battery technology invented by a team led by Prof. Ein-Eli at the Grand Technion Energy Program at the Technion – Israel Institute of Technology.

Silicon–air batteries are created from oxygen and silicon. Such batteries would be lightweight, and have a high tolerance for both extremely dry conditions and high humidity and would provide significant savings in cost and weight because the built-in cathode of conventional batteries is not present in silicon–air batteries.^{[1][2]} The experimental cells described in the journal *Electrochemistry Communications* using a room-temperature ionic liquid as electrolyte produced between 1 and 1.2 volts at a current density of 0.3 millamperes per square centimeter of silicon.^[3]

References

1. Silicon–Air Battery: Non-stop Power for Thousands of Hours
2. New Silicon-Air Battery to Have Unlimited Shelf Life
3. <http://www.sciencedirect.com/science/article/pii/S1388248109003889> Abstract of paper *Silicon–air batteries* , Volume 11, Issue 10, October 2009, Pages 1916-1918 in *Electrochemistry Communications*, retrieved 2011 Aug 3