

New Single-Element Compound Discovered

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(PhysOrg.com) -- Florida International University researchers have discovered a new single-element compound, a breakthrough that could rewrite chemistry books.

The Center for the Study of Matters at Extreme Condition (CeSMEC) at FIU led an international group of scientists that synthesized and characterized a single-element compound, Boron Boride (B_{28}).

The classic definition of a chemical compound is a substance consisting of two or more different elements chemically bonded together in a fixed proportion by mass. The new compound differs from that definition in that it is made up of just one element, formed by pure boron under high pressure and temperature (above 120,000 atmospheres and 1,400 degrees Celsius).

Jiuhua Chen, a professor with the Mechanical and Materials Science Department of FIU's College of Engineering and Computing and associate director of CeSMEC, initiated the research project and the international effort that resulted in the discovery.

"This has brought us a new understanding of elements," Chen said.

"Without the collaboration of scientists, especially between experimentalists and theoreticians, this discovery would not be possible."

The team's research is detailed in the latest issue of *Nature* (www.nature.com/nature/journal/...ull/nature07736.html).

Provided by Florida International University

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