How to jail unruly things: efforts to trap superconducting gases with crystal hosts

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Above room temperature superconductivity is still a challenge. The theory states that variation of superconducting parameters may be varied by changing enviromental conditions. So far many superconductors were affected by pressure to increase critical temperature but still not enough for application at home. Hydrogen sulphide shows high temperature superconductivity at high pressure. Hydrostatic pressure is common for such applications but is not so convenient or practical. However, by exploiting the ideas taken from the SmartCut(TM) technology, the superconducting gas may be trapped into crystal material. The experiment was carried out to search for the appearance of the superconductivity in such materials. So far, the existence of phase transitions was observed and future perpectives discussed.