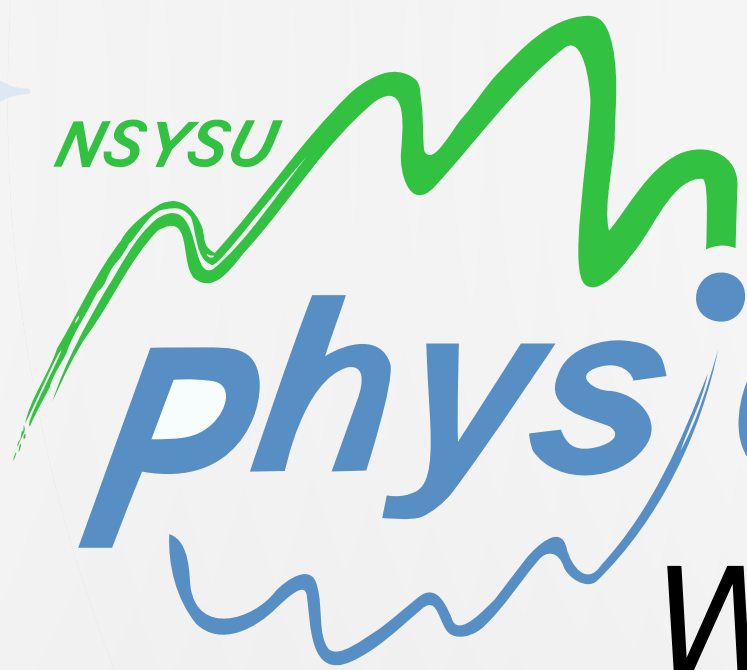




physics 書報討論 Weekly Seminar

Searching for Room-temperature Superconductor: a Race to Nobel Prize

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Abstract

Recent reports of room-temperature superconductivity (RT-SC) with $T_c \sim 300$ K in C-S-H composite under high pressure ~ 267 GPa and with RT-SC in Pb-Cu-P-O at ambient pressure have been attracted much attention. The question quickly arises: Will they get Nobel Prize soon?

In this presentation, I will first introduce three basic phenomena of superconductivity. Then I will give some exotic superconductors with the mechanism beyond BCS theory before 1986. The scrambling story of searching higher- T_c superconductors, such as Cu- and Fe-containing oxides, K C_{60} , and MgB_2 after 1986 will be shown with its citations. Further progress on high-pressure induced high- T_c superconductivity in metal-hydrides and the controversy of RT-SC at ambient pressure will be timely presented. Final question: who are going to win the race and catch the Crown of Nobel Prize? The answer is left to audiences.