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Pulsed Laser Deposition of Na_xCoO_2 Thin Films WEIDONG SI, SANGMOON PARK — Na_xCoO_2 has been discovered to have very large thermoelectric power, which shows that it may be used in potential integrated heating spreading solution. Recently it was also found to be superconducting at certain sodium concentration after intercalated with water. It has a layered structure similar to the cuprates and considered to be helpful to the understanding of the mechanism of the high temperature superconductor. We have successfully grown c-axis oriented thin films of Na_xCoO_2 on substrates of polycrystalline sapphire and (0001) sapphire by pulsed laser deposition. The in-plane transport and magnetic measurements has been performed in the Na_xCoO_2 films and show similar behaviors as in the single crystal samples. Their structure properties as well as physical properties will be discussed.

Weidong Si
Brookhaven National Laboratory

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