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Two species Bose-Einstein condensate of ^{23}Na and ^{87}Rb XIAOKE LI, DEZHI XIONG, FUDONG WANG, DAJUN WANG, Department of Physics, The Chinese University of Hong Kong, Hong Kong, China — ^{23}Na and ^{87}Rb are the first two species to be Bose-Einstein condensed in 1995 and they continue to be two of the most popular atoms for quantum gas researches since. Both ultracold mixtures of these two atoms and ground state NaRb molecules are also of great interest to study. We report on the first realization of the double condensate of these two atoms by exploiting evaporative cooling and sympathetic cooling techniques in a hybrid trap. The two condensates are observed to be immiscible with both atoms prepared in the $|1, -1\rangle$ spin states. This behavior is consistent with the interspecies interaction strength extracted from a cross-species thermalization measurement. Future experiments with this system will also be discussed.

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