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Universal behavior of the critical temperature and condensate fraction of a strongly interacting molecular condensate YASUHISA INADA, Japan Science and Technology Agency and The University of Tokyo, MUNEKAZU HORIKOSHI, Japan Science and Technology Agency, SHUTA NAKAJIMA, Japan Science and Technology Agency and Tokyo Institute of Technology, MAKOTO KUWATA-GONOKAMI, Japan Science and Technology Agency and The University of Tokyo, MASAHITO UEDA, Japan Science and Technology Agency and Tokyo Institute of Technology, TAKASHI MUKAIYAMA, Japan Science and Technology Agency — We have observed the universal behavior of the critical temperature and condensate fraction of strongly interacting molecules of fermionic ${}^6\text{Li}$ atoms on the BEC side of the Feshbach resonance [1]. The Bragg diffraction is applied to probe the momentum distribution of strongly interacting molecules to deduce the temperature and condensate fraction. The Bragg technique is instrumental in clearly identifying the onset of Bose-Einstein condensation, allowing us to determine the critical temperature precisely. As we approach the Feshbach resonance from the BEC side, the critical temperature decreases and eventually levels off and the temperature dependence of the condensate fraction approaches a universal curve. [1] Y. Inada, et al., cond-mat /0712.1445.

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