Observation of broad p-wave Feshbach resonances in a $^{85}\text{Rb-}^{87}\text{Rb}$ mixture SHEN DONG, YUE CUI, CHUYANG SHEN, State Key Laboratory of Low Dimensional Quantum Physics, Department of Physics, Tsinghua University, BO GAO, Department of Physics and Astronomy, University of Toledo, MENG KHOON TEY, LI YOU, State Key Laboratory of Low Dimensional Quantum Physics, Department of Physics, Tsinghua University; Collaborative Innovation Center of Quantum Matter — Many Feshbach resonances are observed in an ultracold mixture of $^{85}\text{Rb-}^{87}\text{Rb}$ atoms, including three previously unknown resonances in the lowest ground state channel of $^{85}\text{Rb}|2, 2\rangle \otimes ^{87}\text{Rb}|1, 1\rangle$ and three new ones in the higher ground channel $|2, -2\rangle \otimes |1, -1\rangle$ [1]. Of particular interests, we discover a wide and open-channel-dominated p-wave resonance, implicating exciting opportunities for studying a variety of p-wave interaction dominated physics of superfluid boson mixtures, such as three-body recombination decay and formation of p-wave heteronuclear molecules. This study is made possible by the predictive power of the semi-analytic multi-channel quantum defect theory (MQDT) [2].