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A versatile apparatus for the production of degenerate Ytterbium gases YUEYANG ZOU, BO SONG, CHANG-WOO CHO, KWAN HON, SHANCHAO ZHANG, GYU-BOONG JO¹, The Hong Kong University of Science and Technology — The optical lattice system with ultracold atoms is a promising platform for investigating many-body physics. We describe our ongoing efforts along this line for constructing a versatile ytterbium apparatus designed for the optical detection of atoms with high resolution. The apparatus already allows us to produce a quasi-pure ¹⁷⁴Yb Bose-Einstein condensate of 40,000 atoms within 12s. Moreover sufficient atomic flux from the 65-cm long Zeeman slower would allow us to produce ytterbium Bose-Fermi mixture in which unprecedented many-body physics can be explored. In this poster, we report on our recent progress and describe our experimental setup.

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