Abstract

The superconducting maglev is a super high-speed transportation system based on the magnetic levitation and linear motor propulsion technologies. Since 1997 the superconducting maglev system has been tested at Yamanashi Test Line in Japan, aiming at its future practical application. Central Japan Railway Company announced that the commercial service between Tokyo and Nagoya would start in 2027, and the service between Tokyo and Osaka is planned in 2045. Superconducting maglev trains have been designed to operate at maximum speeds of 505 km/h, and will be able to connect between Tokyo and Osaka in about one hour. Test runs on a section of the Yamanashi Maglev Test Line (18.4km), beginning in 1997, ended at the end of September 2011, achieving a total of 874000km travelled. Then, the facilities were renewed and the line was extended to 42.8 km, which completed in summer 2013. Running tests has started at the extended test line using new vehicles. On April 21, 2015, the superconducting maglev train has set a new world record speed of 603 km/h. In my presentation, the overview of superconducting maglev technology and the recent situation of Chuo Shinkansen development for commercial service will be introduced.