



CHAPTER 8: ELECTROMAGNETISM



Extra Info

History of Maglev Train

Magnetically levitated non-contact trains have come a long way since the 1900's.

In August 14, 1934, Herman Kemper of Germany receives a patent for electromagnetic levitation trains.

The Japanese started their research on frictionless trains, using electromagnetic levitation in early 1970. In 1990, Japan constructed the 43 km long Yamanashi maglev test line. In 1997, they tested a prototype of the maglev train on this line and reached a speed of 531 km per hr.



The JR-Maglev train at the Yamanashi(Japan)test line

The German tested their first maglev train in 1993 at a top speed of 450 km per h.



A Maglev train in Germany Test Line

In 2003, China successfully launched the first commercial magnetic levitation train in the world in Shanghai linking the airport to Shanghai city.
Future maglev trains can run up to $1\,000\text{ km h}^{-1}$.



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Maglev trains in Shanghai