What are the energy storage electromagnetic catapult systems

What is an electromagnetic catapult?

An electromagnetic catapult,also known as the electromagnetic aircraft launch system (EMALS) when specifically referring to the system used by the United States Navy,is a type of aircraft catapult that uses a linear induction motor system,rather than the single-acting pneumatic cylinder (piston) system in conventional steam catapults.

How much electricity does an electromagnetic catapult use?

The same energy is then used to return the carriage to its starting position. An electromagnetic catapult can launch every 45 seconds. Each three-second launch can consume as much as 100 million wattsof electricity,about as much as a small town uses in the same amount of time.

What technologies were developed for the electromagnetic catapult?

Two technologies successfully developed for the electromagnetic catapult were Pulse Power, which controls the electromagnetic catapult's power requirements and ensures precise and dependable launches, and Linear Electric Machine, which produces the electromagnetic force required to launch aircraft.

Can electromagnetic catapult technology be used to launch aircraft?

Electromagnetic catapult technology already has the ability to launch any aircraftnow in the Navy inventory and any the Navy has ordered. With the new launch system's potential to achieve acceleration forces reaching 14 Gs,human endurance may be one of the few limitations it faces.

Will EMALS be the first catapult to use electro-magnetics to launch manned aircraft?

When complete in 2008,it will be the first catapult to use electro-magnetics to launch manned aircraft. As the Navy's project manager for the Electromagnetic Aircraft Launch System (EMALS),Sulich's task is to move the newest catapult technology from development at the research facility to ships at sea.

Which aircraft carriers have electromagnetic catapults?

Currently,only the United States and China have successfully developed electromagnetic catapults,which are installed on the Gerald R. Ford -class aircraft carriers(currently only the lead ship CVN-78 being operational),the Type 003 aircraft carrier Fujian and the upcoming Type 076 amphibious assault ship Sichuan (51).

OverviewSystems under developmentHistoryShips with electromagnetic catapultExternal linksThe concept of a ground carriage is intended for civilian use and takes the idea of an electromagnetic aircraft launch system one step further, with the entire landing gear remaining on the runway for both takeoff and landing. Rear Admiral Yin Zhuo of the Chinese Navy said in 2013 that China"s next aircraft carrier (later called "Fujian") would also have an electromagnetic aircraft launch system. Multiple prototypes ...

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