Gyroscope energy storage Switzerland

OverviewPhysical characteristicsMain componentsApplicationsComparison to electric batteriesSee alsoFurther readingExternal linksCompared with other ways to store electricity, FES systems have long lifetimes (lasting decades with little or no maintenance; full-cycle lifetimes quoted for flywheels range from in excess of 10, up to 10, cycles of use), high specific energy (100-130 W·h/kg, or 360-500 kJ/kg), and large maximum power output. The energy efficiency (ratio of energy out per energy in) of flywheels, also known as round-trip efficiency, can be as high as 90%. Typical capacities range from 3 kWh to 1...

An important factor is to expand and strengthen the knowledge in the energy field through the increase of personnel resources, e.g., scientists, engineers, technicians alongside with technology development.

Developed by the Swiss company Oerlikon in the fifties, gyrobuses were used for approximately 7 years at Yvernon and Grandson in Switzerland, Léopoldville in Belgian Congo, and in Gand in Belgium. The technology uses an electric engine powered by a ...

Switzerland"s current studies have turned to geothermal storage techniques using bedrock or groundwater at depths of 20-100 metres as storage, the heated material (eg, water or rock) is then transported underground via geothermal wells or probes, finally the heat is ...

The concept of a flywheel-powered bus was developed and brought to fruition during the 1940s by Oerlikon (of Switzerland), with the intention of creating an alternative to trolleybuses for quieter, lower-frequency routes, where full overhead-wire electrification could not be justified.

Energy storage is rapidly become more and more relevant due to the increasing renewable energy fraction in the grid, the rise of photovoltaics and the increase in electric cars. This website aims to give an overview of the energy storage situation in Switzerland.

With this large-scale storage system, we are making a decisive contribution to the implementation of Switzerland"s Energy Strategy 2050, which aims to convert 100 per cent of its energy supply to renewable energies by 2050.

Many Swiss cities at that time had trolley buses as public transport that ran on predetermined routes powered by electricity. But rails restricted movement and running overhead wires over new routes were prohibitively expensive.

In the GyroP project, a flywheel energy storage was used to analyse the potential role of kinetic storages in energy supplies of the future. A first step consisted in designing a demonstrator of 1.5kW with an energy content of 0.3kW and modelling its properties.

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