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 the rotor armature (11) of which
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generation, transmission and distribution of electric power. What is a Synchronous Machine? - its Basic Principles ... Synchronous machines are commonly used as generators especially for large power systems, such as turbine generators and hydroelectric generators in the grid power supply. Because the rotor speed is proportional to the frequency of excitation, synchronous motors can be used in situations where constant speed drive is required. Chapter 6. Synchronous Machines A synchronous electric motor is an AC motor in which, at steady state, the rotation of the shaft is synchronized with the frequency of the supply current; the rotation period is exactly equal to an integral number of AC cycles. Synchronous motors contain multiphase AC electromagnets on the

stator of the motor that create a magnetic field which rotates in time with the oscillations of the line current. The rotor with permanent magnets or electromagnets turns in step with the stator field at the synchronous motor - Wikipedia Michel Lécrivain. Hybrid excitation synchronous machines are electric machines with two excitation circuits, one with permanent magnets and another wound. The study presented in this paper ... (PDF) Overview of hybrid excitation synchronous machines ... This study deals with the modelling and the control of the hybrid excitation synchronous machine connected to a diode bridge rectifier. The set operates as a DC generator that supplies an isolated grid in embedded applications such as aircraft electrical power

generation. The elaborated model includes the magnetic circuit saturation effect. IET Digital Library: Control of a hybrid excitation ... Fundamental Principle of Hybrid Excited Synchronous Machines Hybrid excited synchronous machines are those which use two excitation flux sources: permanent magnets (PM) as well as field coil excitation source. The goal behind the association of both sources is to combine the advantages of both PM machines and wound field synchronous machines. On the Use of Hybrid Excited Synchronous Machines (HESM ... This thesis is a contribution to the control of the Hybrid Excitation Synchronous Machine (HESM) in embedded applications. The HESM combines the advantages of the Permanent Magnets

(PM) machine and the wound rotor machine. The excitation flux in this machine is produced by two different sources: the PMs Contribution to the Control of the Hybrid Excitation ... In order to realize the magnetic flux control easily and improve the performance of the conventional synchronous machine, we propose a hybrid excitation type synchronous machine (HSY) with the permanent magnets and the field winding. Advantages of HSY are (1) it has no brushes (maintenance free), (2) required excitation input is small (high ... Basic principles and characteristics of hybrid excitation ... Hybrid excitation synchronous machines (HESMs) are electric machines that use two excitation flux sources: Permanent magnets (PMs) and field coil excitation sources. The

association of both excitation sources aims to combine advantages of PM machines and wound field synchronous machines [1].

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The present invention relates to a hybrid excitation-type synchronous machine, which includes a field coil and

permanent magnets to generate field

magnetic flux of a rotor. BACKGROUND
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