



Sudan University of Science & Technology

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Voltage Control Using Static Var System (SVS)

A Thesis

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Abstract

Voltage is mainly controlled by controlling reactive power flow through the transmission line. The flow of reactive power is controlled by means of reactive power compensation (supplying or absorbing).

Conventional methods for this compensation are excitation control, saturated reactor , tap changing transformers, series capacitors, shunt reactors, synchronous condensers and shunt capacitors. Here a fast step less variable method for reactive power compensation known as static var system (SVS) is discussed as a new method.

The construction, performance, control system , application and mathematical model of SVS are discussed. Never-the-less , static var compensator for a low voltage distribution system in Port-Sudan area is reviewed .

ملخص

يتم التحكم في الجهد بواسطة التحكم في سريان القدرة غير الفعالة في خطوط النقل .
الطرق التقليدية المستخدمة في عملية تعويض القدرة غير الفعالة هي التحكم في التغذية ، مكثفات التوالي ، المفاعلات المتسبعة ، المكثفات المترادفة ، مفاعلات التوازي ومكثفات التوازي .

أما الطريقة الجديدة في عملية التعويض هذه فتعرف بالمعوضات الساكنة وهي تمثل موضوع هذا البحث . حيث سيتم مناقشة تركيب ، أداء ، نظام التحكم بالإضافة إلى تطبيقات هذه المعوضات . كما سيتم شرح تطبيق المعوضات الساكنة في أحد مغذيات الجهد المنخفض في مدينة بورتسودان يعرف بالمغذي الجديد .

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