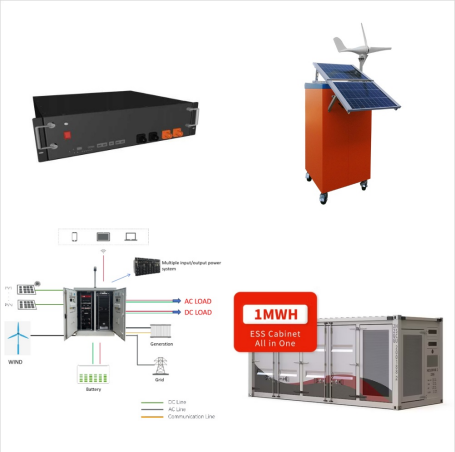
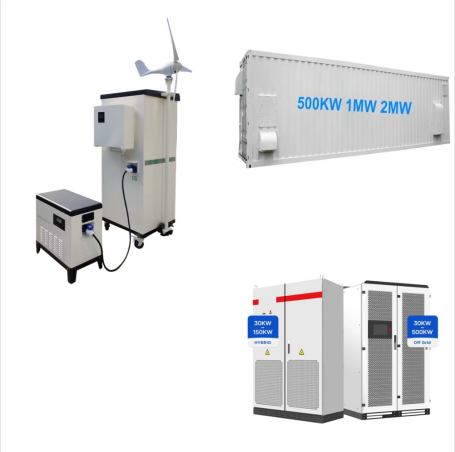
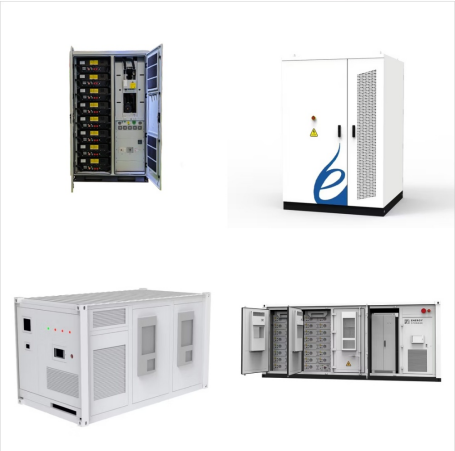


N2 - In this paper, a robust decentralized excitation control scheme is proposed for multimachine power system transient stability enhancement. First, a direct feedback linearization (DFL) compensator through the excitation loop is designed to eliminate the nonlinearities and interconnections of the multimachine power system.

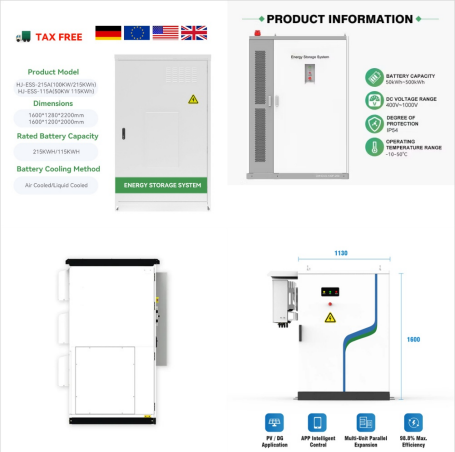


The aim is to construct a suitable decentralized feedback control law so as to guarantee that the large-scale interconnected power system is exponentially stable and robust against load fluctuations. To this end, we propose a novel design algorithm based on the backstepping, which involves five steps and actively utilizes the locally measurable



In order to design a feedback controller to guarantee the overall stability of the multimachine power system irrespective of network parameters, robust nonlinear control technique (see Wang et al., 1992a, 1993) will be extended to design a robust decentralized feedback control law to guarantee the stability of the DFL compensated system.

DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



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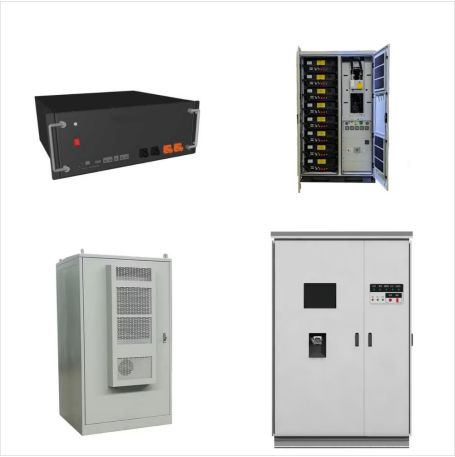
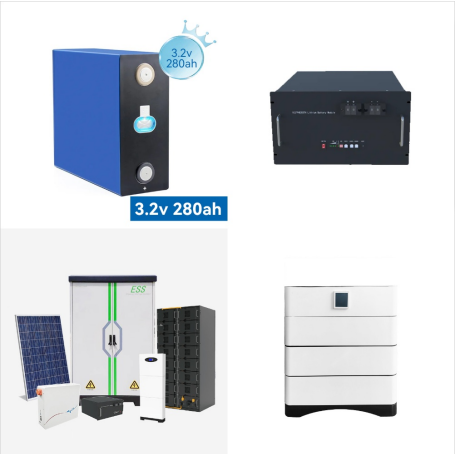
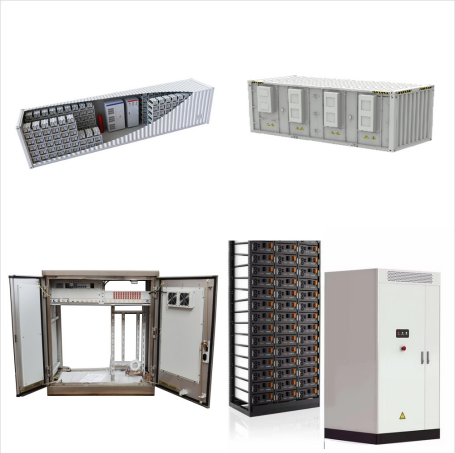


This paper proposes a novel decentralized nonlinear model predictive control approach for excitation control in multimachine power systems. A key feature of the proposed approach is the reduction

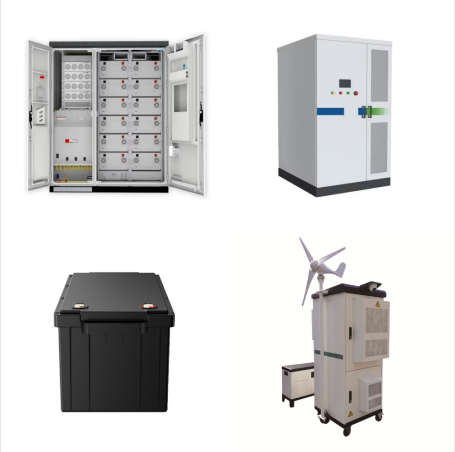


This paper presents a decentralized adaptive backstepping controller to dampen oscillations and improve the transient stability to parametric uncertainties in multimachine power systems. The proposed design on the i th synchronous generator uses only local information and operates without the need for remote signals from the other generators. The design of the ???

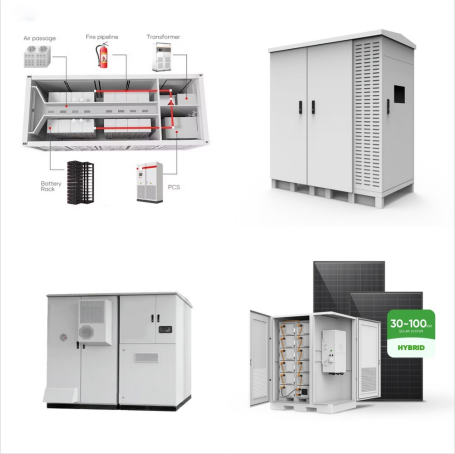
DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



ear decentralized control of the excitation and steam-valve system is proposed to enhance power system stability based on DGC in [24], but PR cannot be achieved due to the lack of power deviation feedback. In [25], a high-order sliding mode technique is used to coordinate the excitation control and steam-valve control for multi-machine power

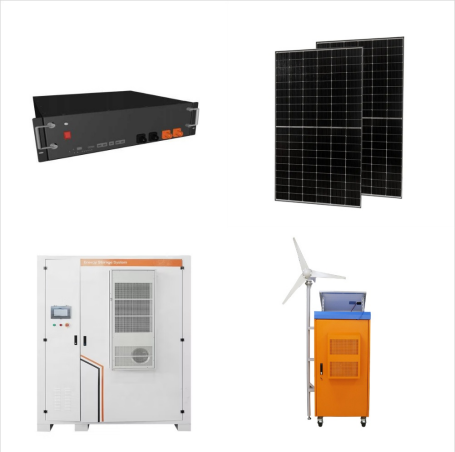


DOI: 10.1016/J.IJEPES.2016.03.003 Corpus ID: 111517681; Decentralized multi-machine power system excitation control using continuous higher-order sliding mode technique @article{Liu2016DecentralizedMP, title={Decentralized multi-machine power system excitation control using continuous higher-order sliding mode technique}, author={Xiangjie Liu and ???

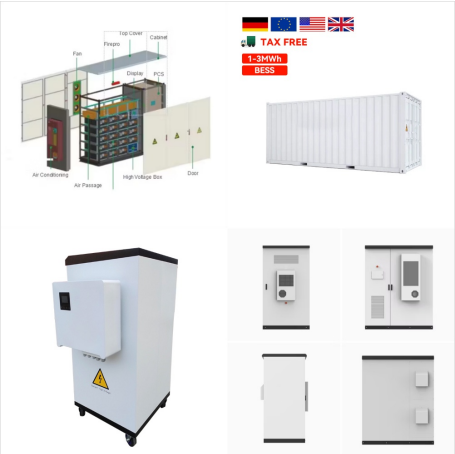


This brief considers a decentralized control problem of interconnected multi-machine power systems with asymmetric input constraints. Initially, such an input-constrained decentralized control problem is converted into a group of unconstrained optimal control problems via preassigning modified nonquadratic cost functions for nominal subsystems. Then, under the ???

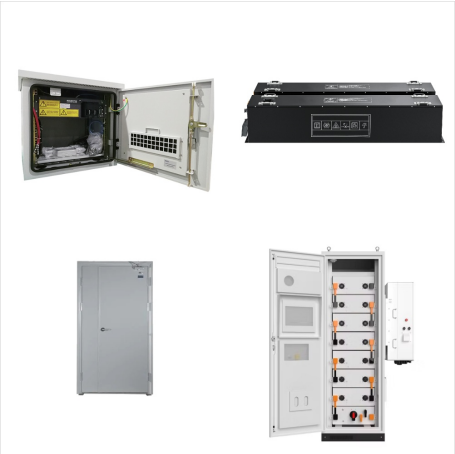
DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



Decentralized constrained optimal control of the multimachine power system is achieved through simulation results. The following results are proposed by improving power system stability. Rotor

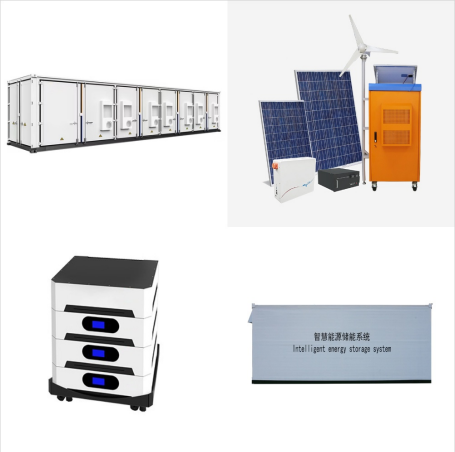


In this paper, a decentralized control problem is considered for multimachine power systems with nonlinear interconnections and disturbances. A direct feedback linearization compensator is

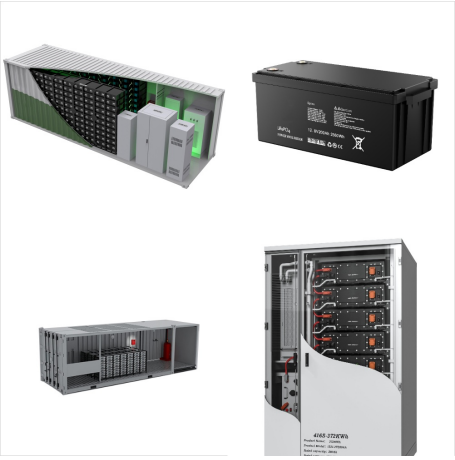


This paper describes an application of nonlinear decentralized robust control (Guo, Jiang & Hill, 1998) to large-scale power systems. Decentralized power controllers are designed explicitly to maintain transient stable closed-loop systems. For the first

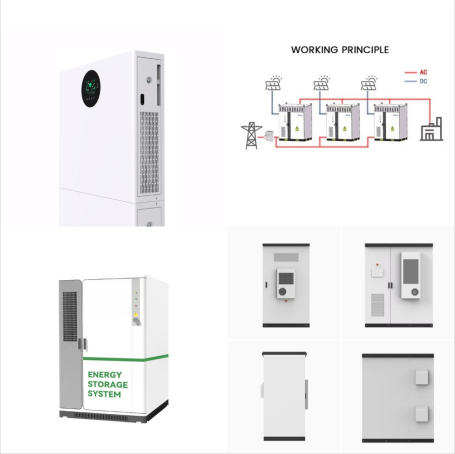
DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



In this paper, a new robust linear decentralized controller is proposed to enhance the transient stability of nonlinear multimachine power systems. Only local measurements are required in ???

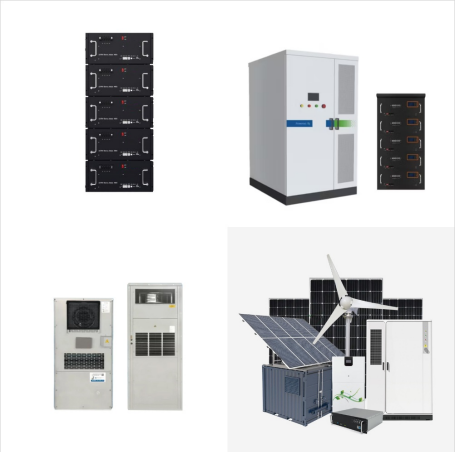


As is well known, three-phase fault on the key transmission circuits is the most severe disturbance in a multi-machine power system. Here, a symmetrical three-phase fault, which occurs at 0.8 s and is cleared at 0.883 s, is applied to the terminal of G 1.When three-phase fault occurs at the terminal of the synchronous generator G 1, it will not supply any power.



DOI: 10.1016/J.IJEPES.2018.10.018 Corpus ID: 115757975; Decentralized nonlinear model predictive control of a multimachine power system @article{Patil2019DecentralizedNM, title={Decentralized nonlinear model predictive control of a multimachine power system}, author={Bhagyesh V. Patil and L. P. M. I. Sampath and Ashok Krishnan and Foo Yi Shyh ???

DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



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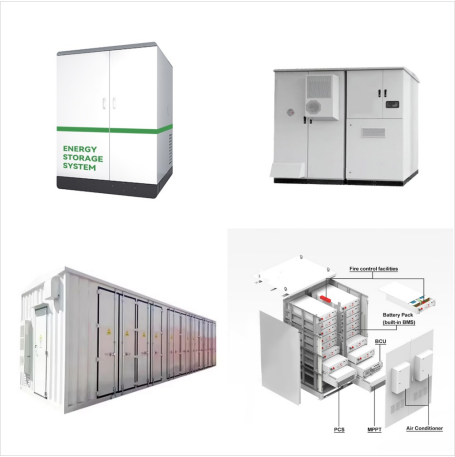
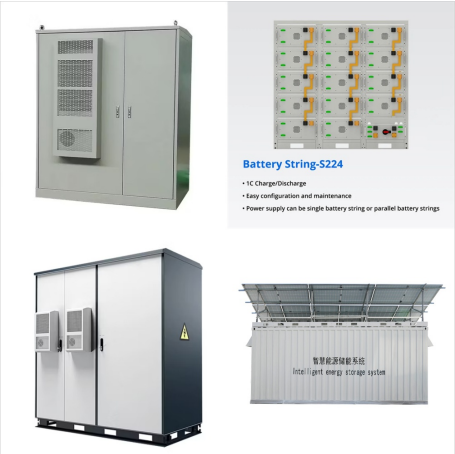
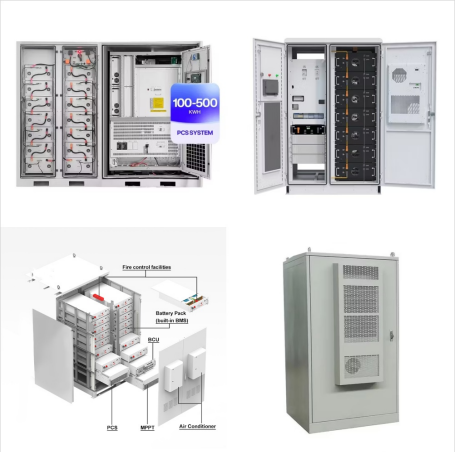


IEEE Transactions on Power Systems, 2001, 16(4): 678???688 No. 7 LIU Yan-Hong et al.: Decentralized Excitation Control of Multi-machine Multi-load Power Systems ??? 925 14 Tan Y L, Wang Y Y. Augmentation of transient stability us-ing a super conducting coil and adaptive nonlinear control. IEEE Transactions on Power Systems, 1998, 13(2): 361

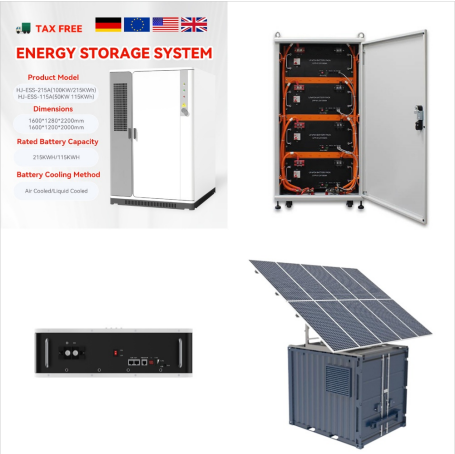


DOI: 10.1016/S0005-1098(00)00038-8 Corpus ID: 16592950; Nonlinear decentralized control of large-scale power systems @article{Guo2000NonlinearDC, title={Nonlinear decentralized control of large-scale power systems}, author={Yi Guo and David.

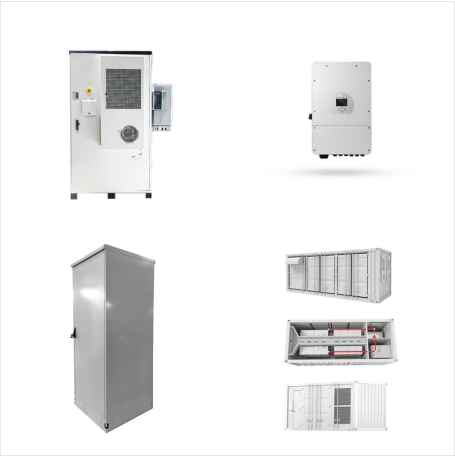
DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



Most of large scale systems are described by their complex mathematical model& #8217;s structures which caused by the overlapping between its inputs and outputs variables. In many cases, the complexity of the model may lead to ???

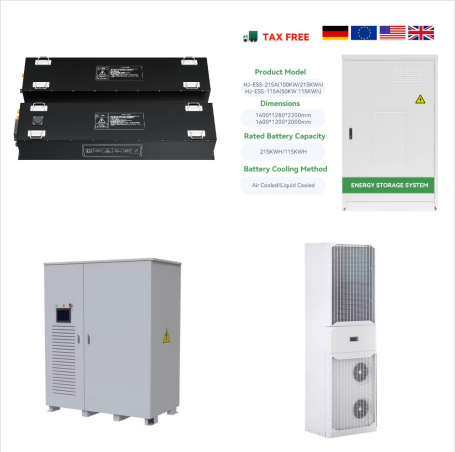


In this paper, a new robust linear decentralized controller is proposed to enhance the transient stability of nonlinear multimachine power systems. Only local measurements are required in the proposed controller. The feedback gain of each generator is obtained by solving an algebraic Riccati equation based on the bounds of the machine parameters. The stability analysis shows ???

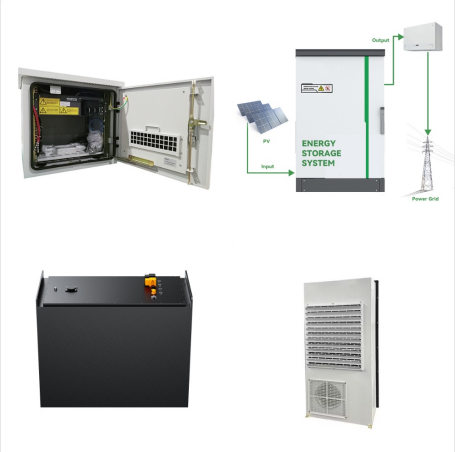


approach for excitation control in multimachine power systems. A key feature of the proposed approach is the reduction of the multimachine control prob-lem to multiple single-machine control problems.

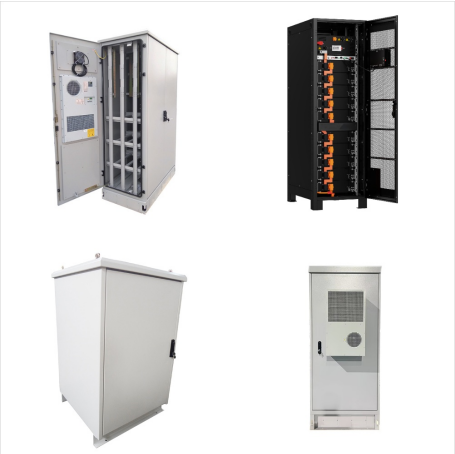
DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



This paper presents a decentralized state-feedback controller design based on robust control theory to ensure system stability and voltage regulation in multimachine power systems. The power system is decomposed in n subsystems each represented by a state-space model with bounded parameter uncertainties and unknown input disturbances of class L ??? which model ???

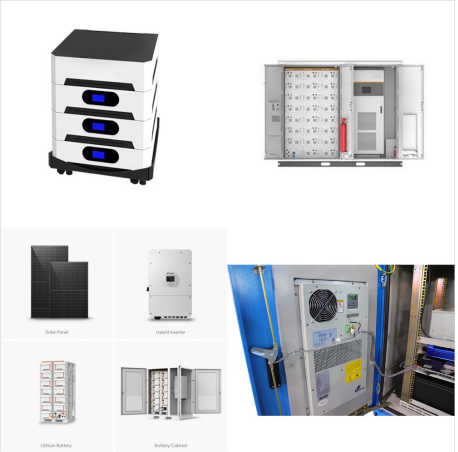


This paper presented a new decentralized strategy for excitation control of interconnected multimachine power systems. In this decentralized strategy, each machine was modeled using a single-machine infinite bus, wherein the reference voltage for the infinite bus was obtained from the power flow solution of the network.

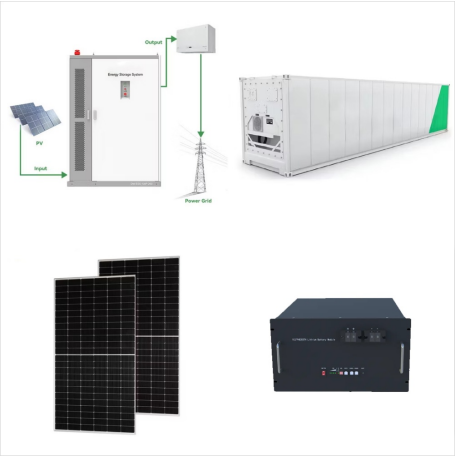


A decentralized sliding mode stabilizing excitation controller for multimachine Electric Power Systems (EPS) is designed. The block control approach is used in order to derive a nonlinear sliding

DECENTRALIZED CONTROL OF MULTIMACHINE POWER SYSTEMS



Xiangjie Liu, Yaozhen Han, Decentralized multi-machine power system excitation control using continuous higher-order sliding mode technique, International Journal of Electrical Power & Energy Systems, 10.1016/j.ijepes.2016.03.003, 82, (76-86), (2016).



There have been numerous results on decentralized robust control of power systems. (1997) which applies the direct feedback linearization to transfer a nonlinear multimachine power system model to a linear one; then robust decentralized control is applied. Solving a set of algebraic Riccati equations gives controllers which guarantee the