عنوان مقاله:

Modified mathematical model for variable fill fluid coupling

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خلاصه مقاله:

Variable fill fluid couplings are used in the speed control units. Also, variation in coupling oil volume is used in adapting one size of coupling to a wider range of power transmission applications. Available model for the partially filled fluid couplings, has a good performance for couplings with fixed amount of oil but their performance will be degraded if they are used for the variable fill couplings. In this paper, the current model for partially filled fluid couplings is modified to have better performance for variable fill couplings. For this purpose, the circulation loss calculation is modified and also, the effect of oil temperature variations and blade thickness are included in the model. The effect of these modification on the model performance are investigated in couple of simulations. Comparing the simulation results with the available experimental data shows that the suggested modifications can improve the model performance very well.

کلمات کلیدی:

Fluid coupling, Mathematical Modeling, Power transmission, Variable fill coupling, Turbomachinery

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