

عنوان مقاله:

Greater productivity in industries by using induction furnace design and hybrid filtration to improve performance and reduce industrial disruptions

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خلاصه مقاله:

Abstract- Since the invention of the induction furnace, great developments have taken place in industry and production. This technology is not only proud of its past, but it has become one of the most important tools of industrial development by providing new solutions to improve performance and reduce industrial disturbances. Therefore, new researches and investigations show that the induction furnace has a very effective role in improving productivity and reducing wastage of resources in various industries. In this article, a three-phase induction furnace is used, the connection of the furnace to the network causes harmonics in the current of the network, which in this article tries to reduce the amount of harmonics created in the network by using different filters. For the effect of the provided filter in reducing the harmonics, we examine the conditions of the existing power system when it is working without the filter and when the desired filters enter the network, and compare the results obtained from this simulation. We choose the most appropriate mode in terms of eliminating and reducing harmonic distortions, power quality disorders and design costs. After designing and optimizing it using Simulink MATLAB software, the results are analyzed and analyzed, which shows the efficiency of the proposed filter used.

کلمات کلیدی:

Industrial disturbances, productivity, suitable filter, reduction of disturbances, induction furnace

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