Hybrid Filter
for DC distribution system

DESCRIPTION

A comparative study of hybrid filter topologies, comprised of a passive and active stages, which can be implemented in any general dc supply distribution system. The main filter task is to mitigate current dynamics in the dc distribution system in order to prolong the operational life of delicate dc supplies, i.e., fuel cells, and to reduce the electromagnetic interferences between sensitive electronic circuits connected to the distribution net. The active filter based on the single-leg inverter offers superior attenuation, particularly in the low-frequency range where attenuation is improved nearly for 15 dB compared to the passive filter.

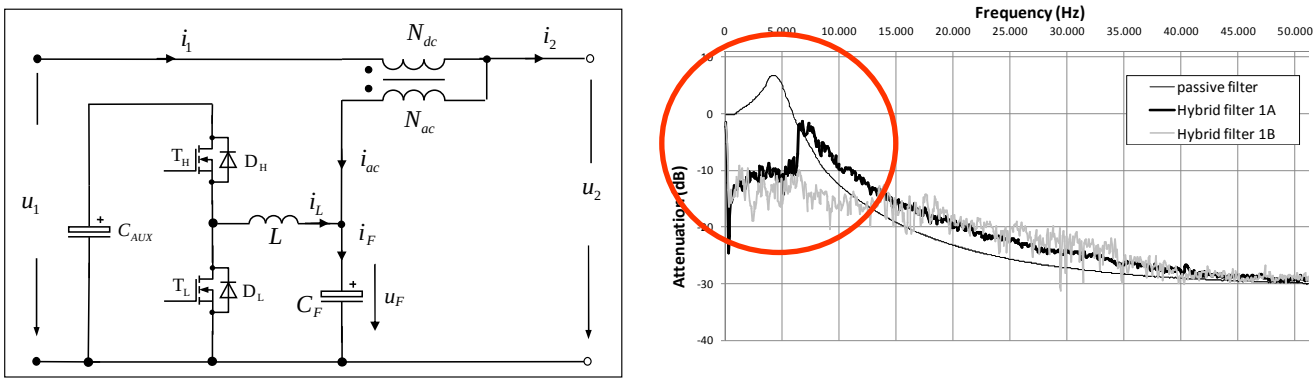

Fig: Proposed topology and attenuation improvements

KEY ADVANTAGES/SKILLS

hybrid topologies, coupled inductor *zero-ripple condition*, power electronics

PUBLICATIONS

1. Simon Ostrožnik, Primož Bajec, Peter Zajec, **A study of a hybrid filter**, IEEE trans. ind. electron., vol. 57, no. 3, pp. 935-942, Mar. 2010.

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