

Power control between two DC buses for on-board systems network stability support

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Abstract — Aircraft electrical networks are undergoing big transformations, such as the implementation of DC grids. These grids can entail stability problems because of the constant power loads that they integrate. The system stability decreases when the length of the wires that connect the loads increases due to their inductive behaviour. As a solution to reduce this effect, distributed DC buses are placed near the loads. However, stability problems might be shifted to the DC bus supply. If the links between the DC buses are controlled, stability problems will disappear. In this paper, the control of a DC-DC converter to manage these links is described