

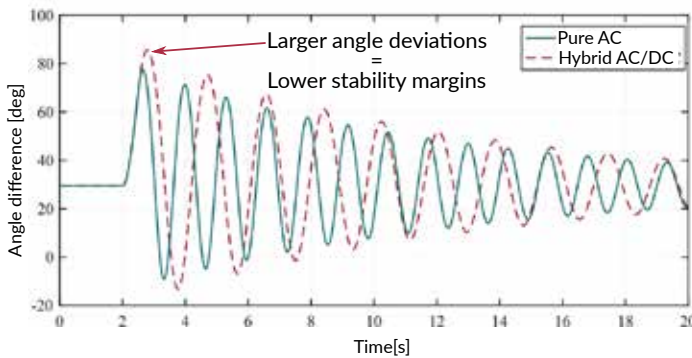
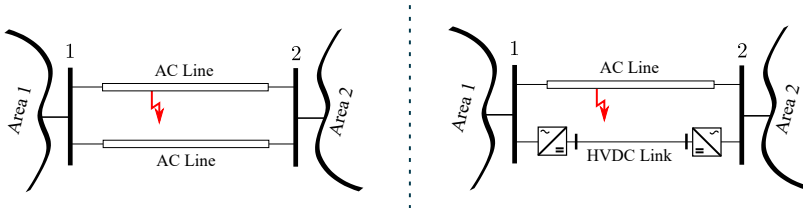


Dynamic Virtual Admittance Control

AC-DC system stability control

CONTEXT

An HVDC link (or grid) which is embedded in an AC power system may impact AC power system transient stability, in case of contingency or power disturbance. Depending on precise circumstances and control schemes, this impact can be negative, neutral or positive.



APPLICATION DOMAIN

Enhancement of AC transient stability using HVDC

ADVANTAGES

- Easy implementation
- Applicable for power oscillation damping as well as synchronizing torque (DVAC provides both inter-area oscillations damping and transient stability enhancement)

TRL SCALE



Tested in PHIL

Being matured with REE in Grid2030 project framework

DELIVERABLES

- Patent appl. FR1852136 and FR1853273
- Technical reports
- Virtual mock-ups
- Technical support

TECHNOLOGY DESCRIPTION

The proposed solution consists in a HVDC control scheme which dynamically computes the necessary power references for each station of a HVDC link (or grid), allowing to improve the rotor angle stability of the AC grid by damping electro-mechanical oscillations, enlarge transient stability margins and ensuring the synchronization of two AC interconnected networks. It is fully applicable to VSC-HVDC (MMC technology), and possibly also to LCC-HVDC.

