

Multi-functional Control Design for Modular Plugand-play Battery Storage in DC Microgrids

Fulong Li, Haoge Xu, Zhengyu Lin

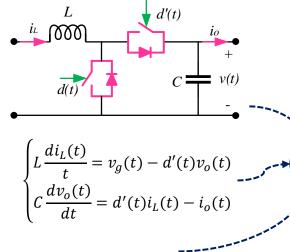
Controller

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DC Microgrids

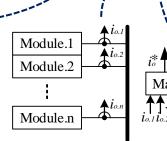
- **Battery Storage**
- **Automatic Master-Slave Control**

Controller Design

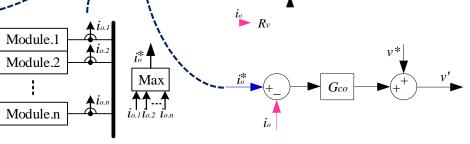


$$G_{ci} = G_{im} \cdot \left(1 + \frac{\omega_z}{s}\right)$$
$$G_{cv} = G_{vm} \cdot \left(1 + \frac{\omega_{zv}}{s}\right)$$

$$G_{co} = G_{om} \cdot \left(1 + \frac{\omega_{zo}}{s}\right)$$



Interface converter



Battery

Capacitor



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