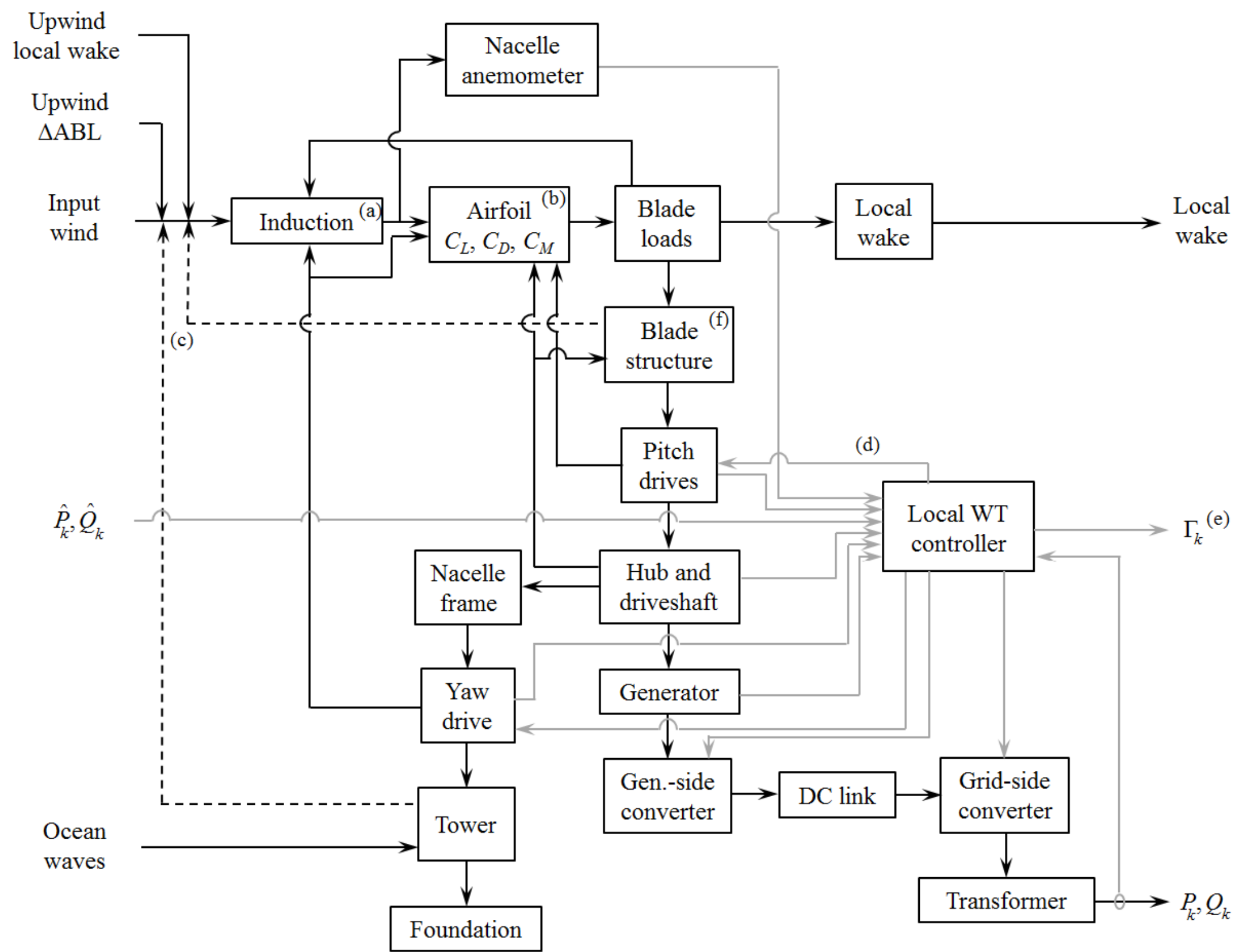


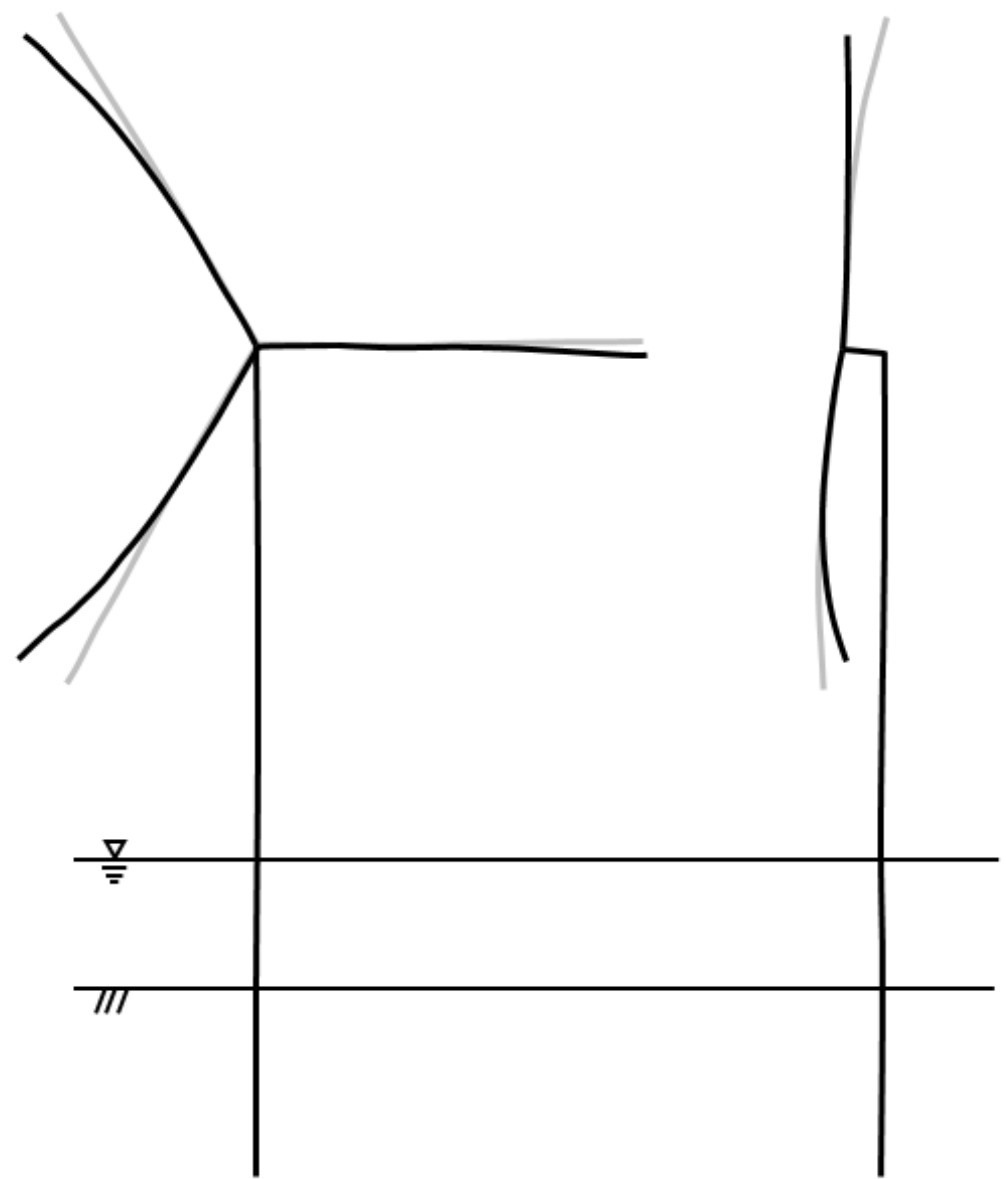
# Elements of real-time optimal wind power plant control

Karl Merz (karl.merz@sintef.no) and John Olav Tande, SINTEF Energy Research  
Adil Rasheed, SINTEF Digital

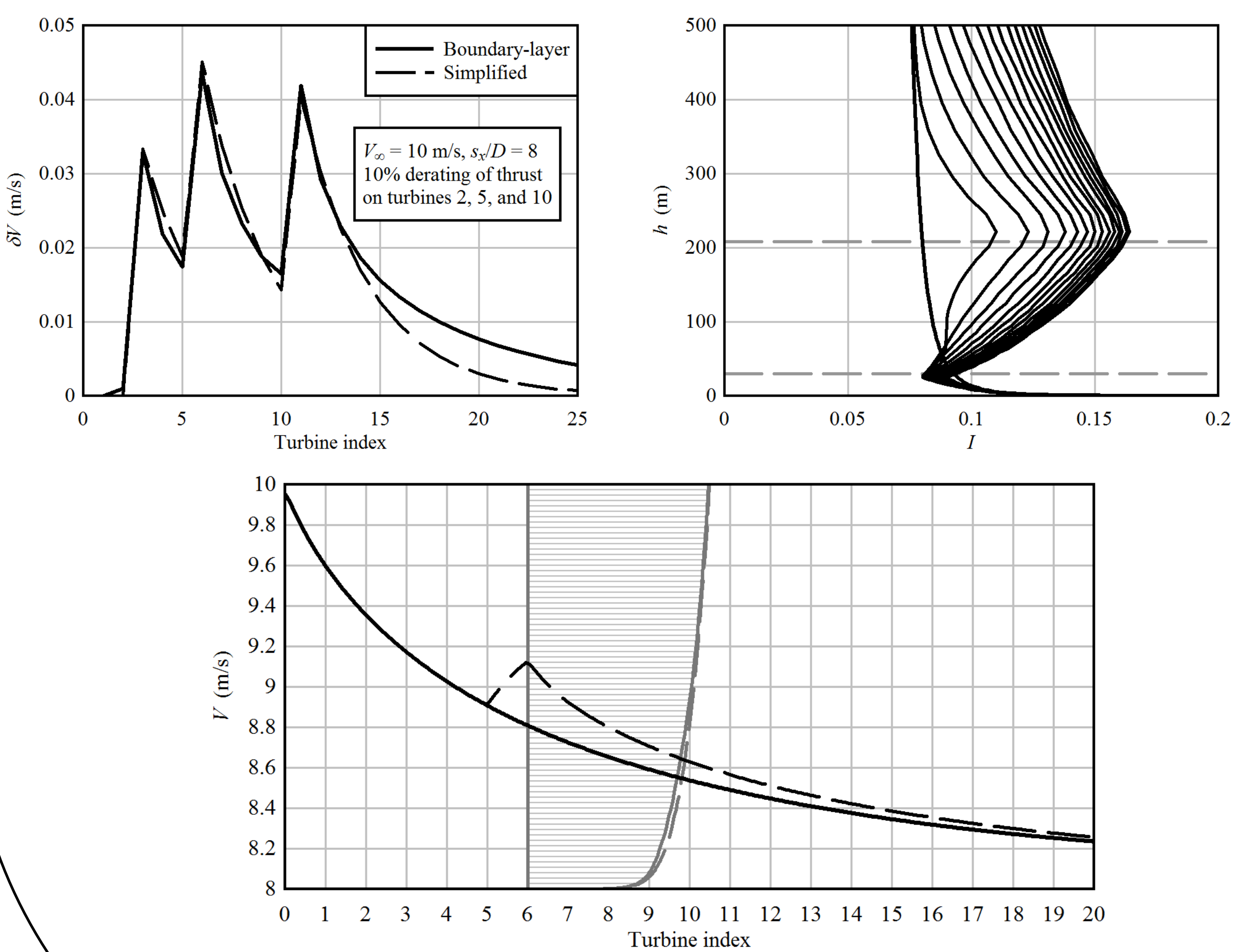
## Aeroelastic model



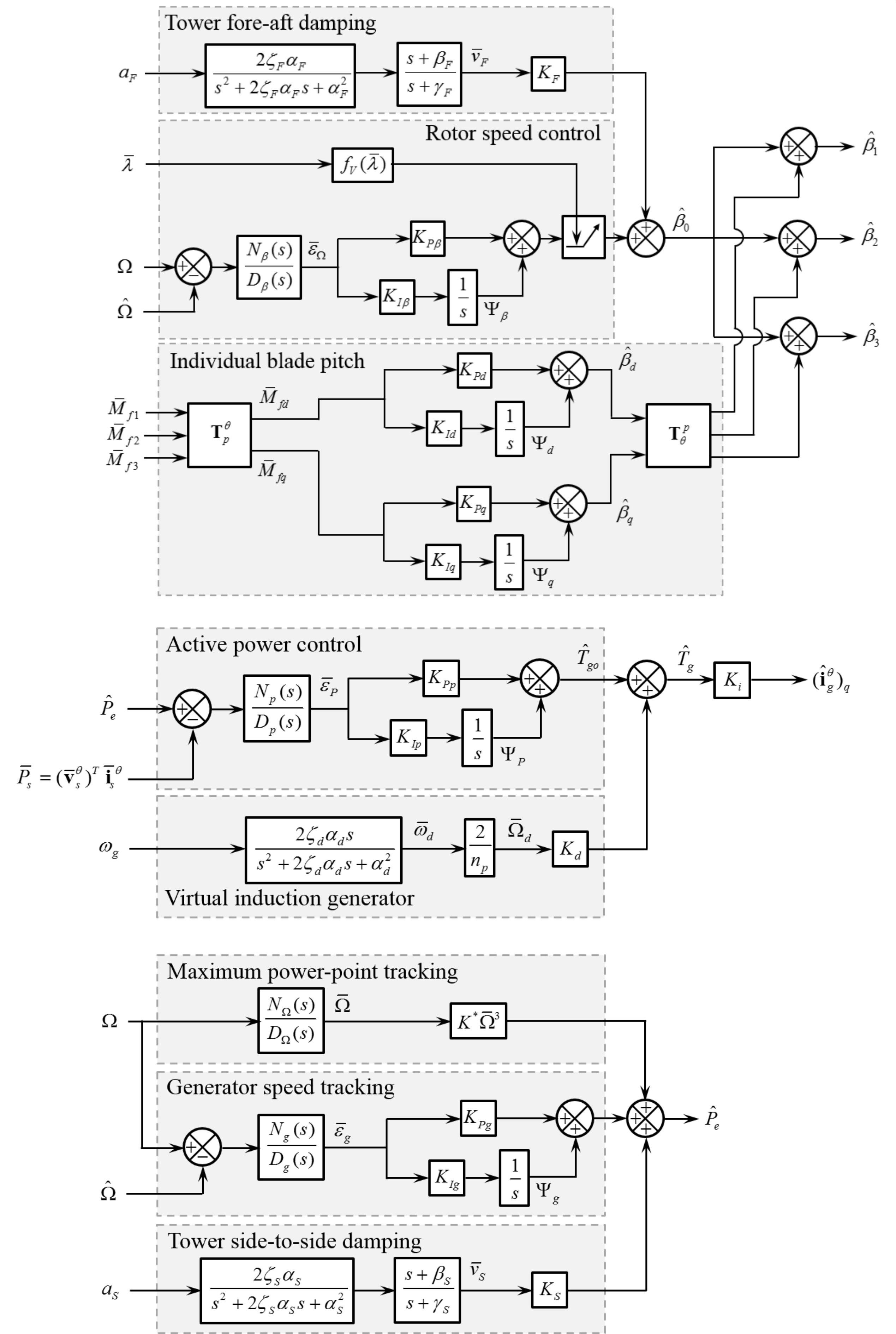
## Modal reduction of the system



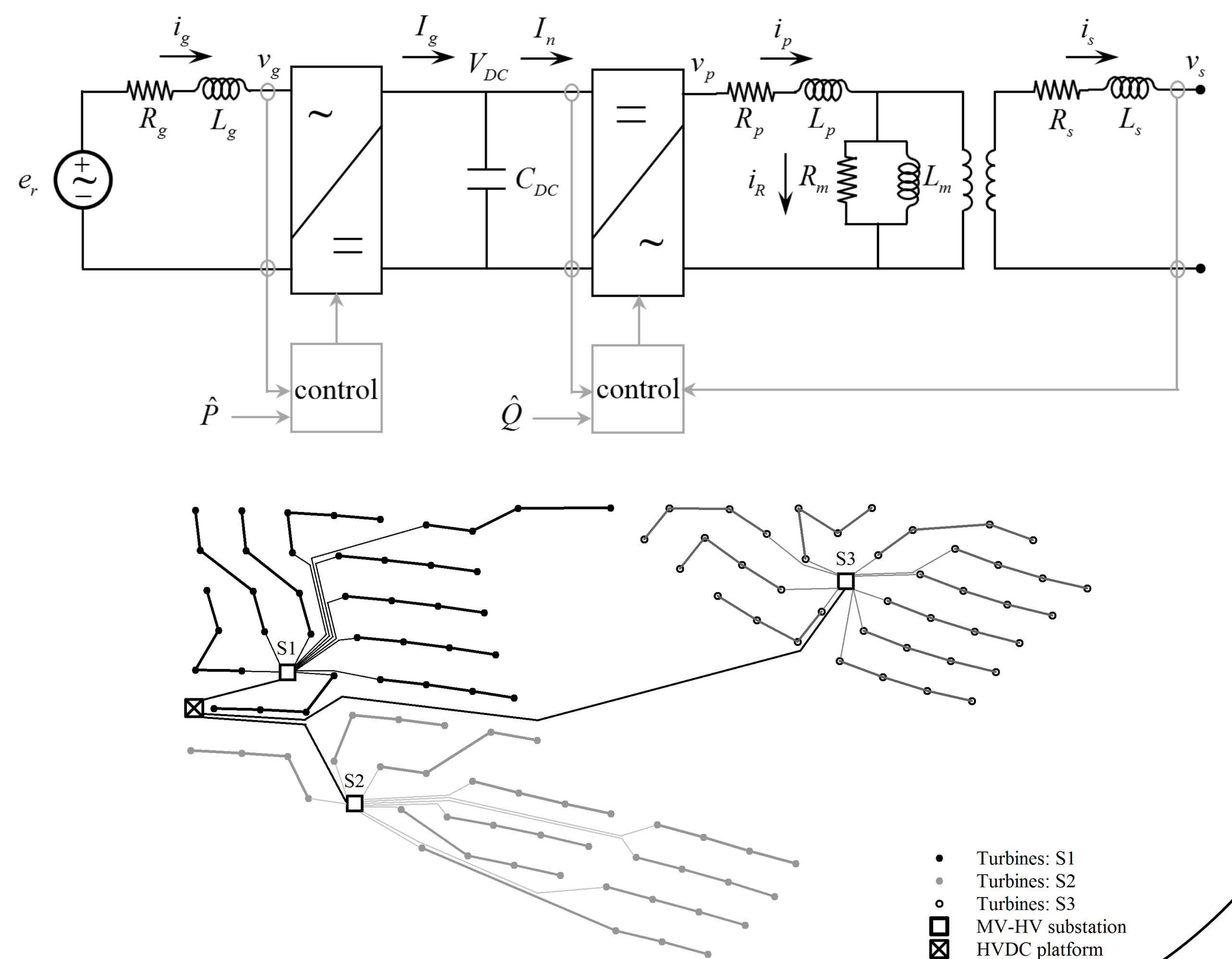
## Engineering methods for turbulent wake flow



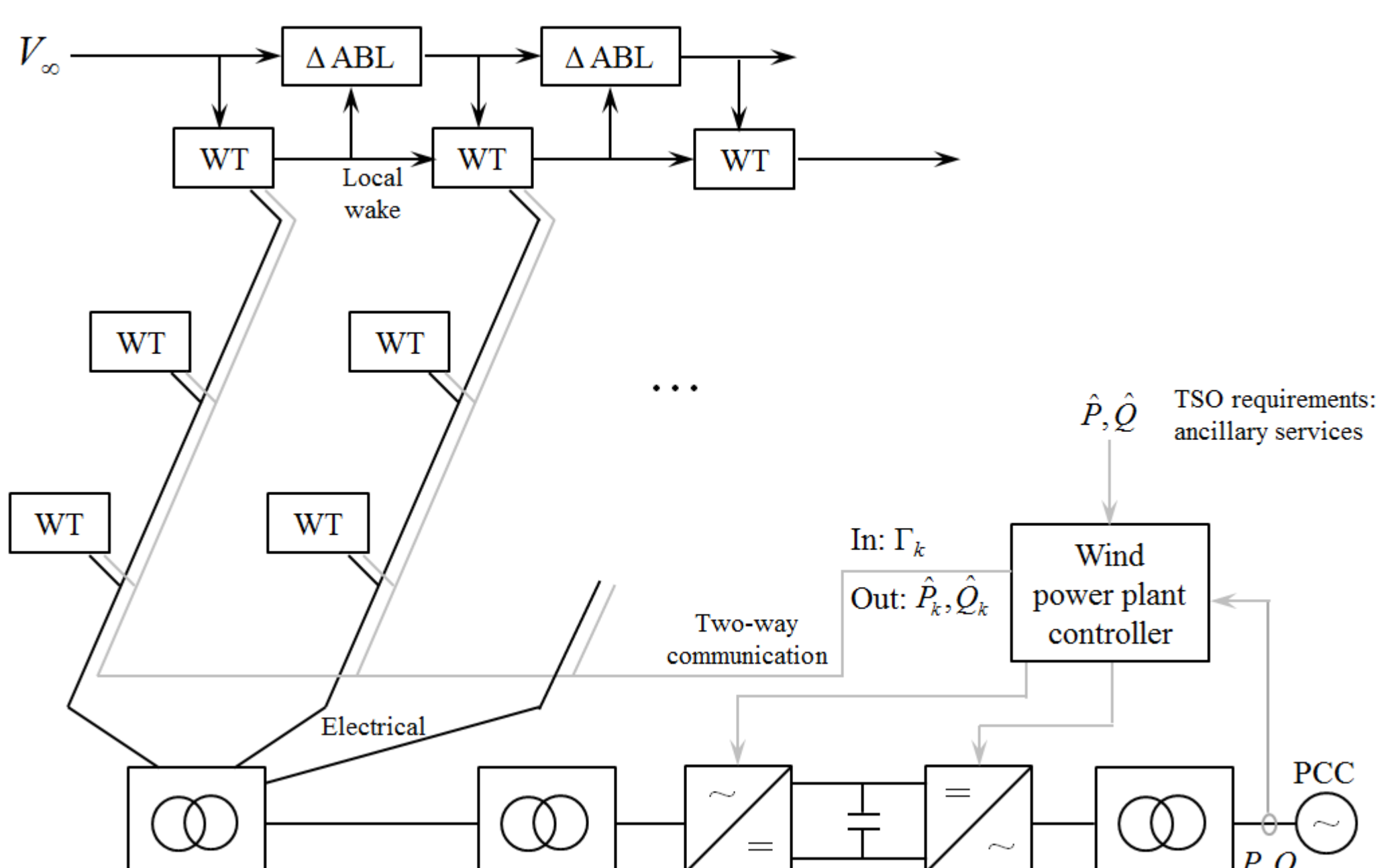
## Full suite of control functions



## Electrical components and systems



## Unified state-space/observer model (STAS)



## The OPWIND project (2017-2021)

