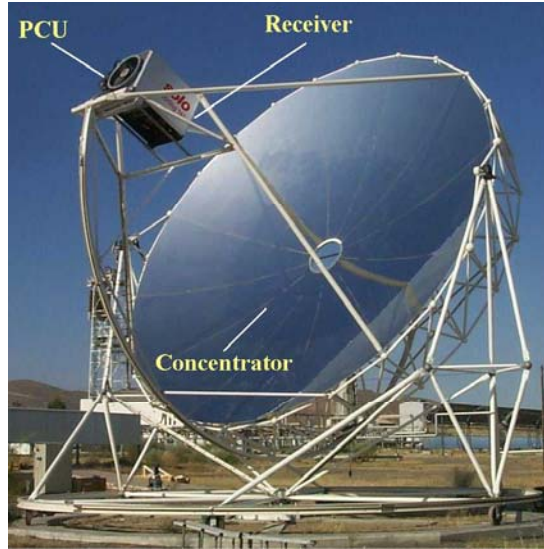
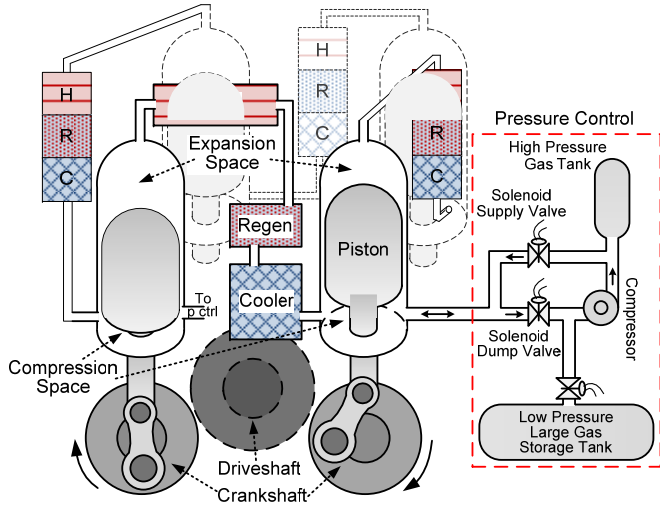


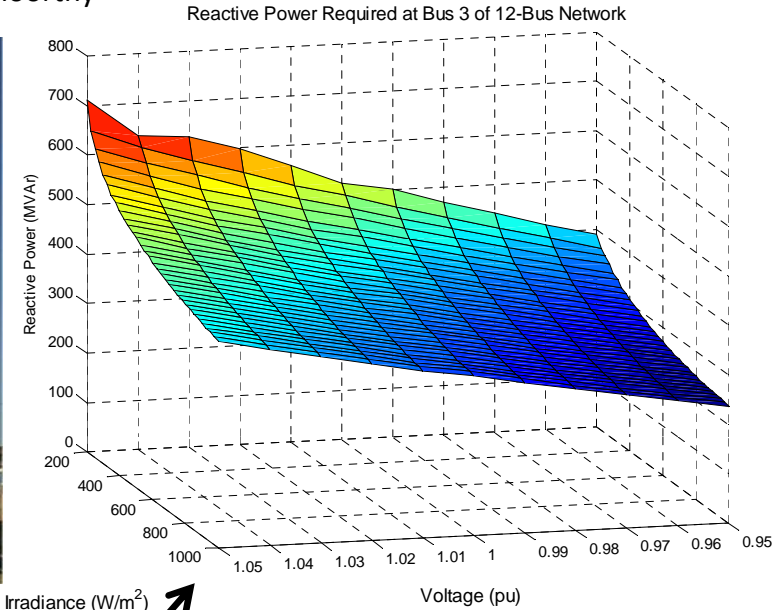
Modeling and Grid Integration of Large Dish-Stirling Solar Farm

Dustin Howard, Ron Harley and Ganesh Kumar Venayagamoorthy

Modeling of Stirling Engine and Working Gas Dynamics

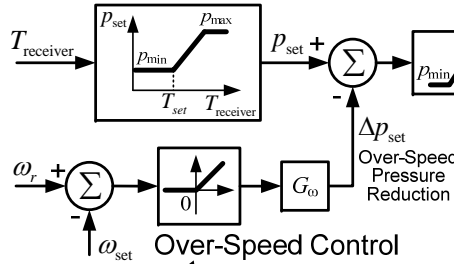


Dish-Stirling System developed by SBP*

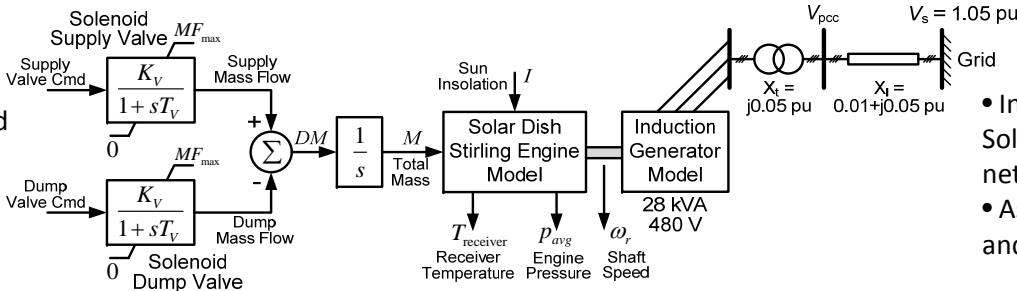


Reactive power requirements of dish-Stirling solar farm in a 12-bus power network as function of voltage and irradiance

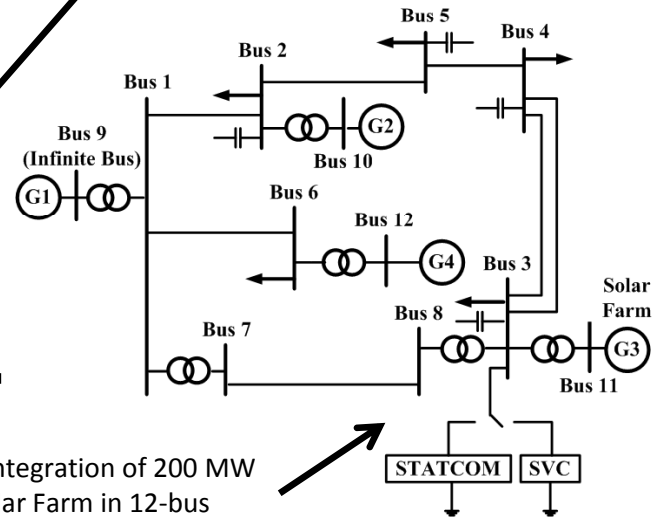
Temperature Control



Pressure Control



Modeling of receiver temperature, pressure, and speed control systems of PCU



Integration of 200 MW Solar Farm in 12-bus network
Assessment of steady state and transient behavior

- D. Howard and R.G. Harley, "Modeling of Dish-Stirling Solar Thermal Power Generation," *Proc. 2010 IEEE PES General Meeting*. [Accepted]
- D. Howard, J. Liang, and R.G. Harley, "Control of Shaft Speed and Receiver Temperature in Dish-Stirling Solar Power Generation for Power Grid Integration," *Proc. 2010 IEEE Energy Conversion Congress & Expo*. [Accepted].
- D. Howard, R.G. Harley, and G.K. Venayagamoorthy, "Effects of Cloud Transient on the Voltage Stability of Large Solar Farms," *Proc. 2010 International Institute for Research and Education in Power Systems*. [Accepted].

*Photo Source: http://en.wikipedia.org/wiki/File:EuroDishSBP_front.jpg

