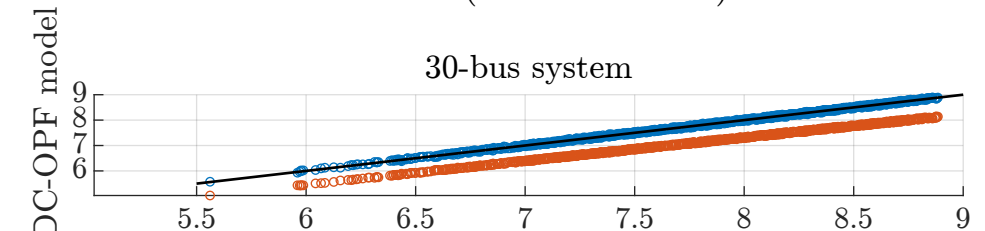


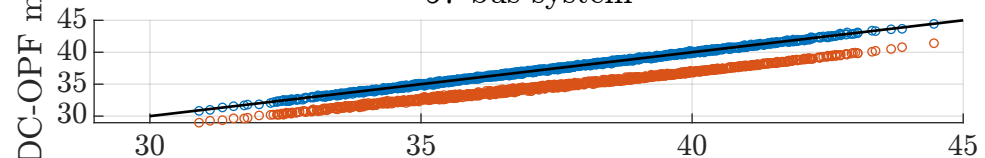
Total cost (thousands of \$)

30-bus system



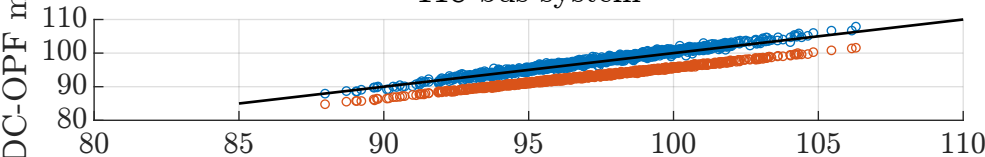
AC-OPF model

57-bus system



AC-OPF model

118-bus system



AC-OPF model