University of Tabriz

Faculty of Electrical and Computer Engineering

Second HW, Probabilistic Power System Analysis Due date: Jan. 5, 2021

1- Consider the power flow problem using the Matpower in Matlab on Case-ieee30 by applying the following methods. The uncertain parameter is the active load demand of the buses.

Method	**Parameter 1**	**Parameter 2**	**Results to Report**
a) Monte Carlo simulation	Mean= data in Matpower	Standard deviation= (Remainder (Student_Number/21)+1)% of Mean	PLoss(kW) Voltage (p.u) Voltage angle
b) Point Estimate Method	2m+1 m=1	K=1	PLoss(kW) Voltage (p.u) Voltage angle

Hint: For PEM method consider the total load of the systems as the uncertain parameter. After calculating the points by PEM, adjust the load of each bu considering the original ratio of load of that bus to the total load. Note that the simulation codes should be attached along with your solutions and should be unique!