

NSE Qualifying Exam

Field of Specialization: Fusion

February 2019

Problem 1

Starting from the two fluid equations, derive Ohm's law. Discuss and justify the approximations that you have to make along the way to arrive at that equation.

Problem 2

Explain why an ITER plasma with $Q = 10$ is often described as a burning plasma, but a SPARC plasma with $Q = 2$ is not described as a burning plasma. As you answer the question, define Q , and any other relevant parameters used.