Answer on Question #43777, Physics, Plasma Physics

how can we say that plasma is a state of matter when it does not contain a single electron...?
it means it has no existance, as science go wrong here..?

Solution:

Heating matter to high temperatures causes electrons to leave the atoms, resulting in the presence of free electrons. At very high temperatures, such as those present in stars, it is assumed that essentially all electrons are "free", and that a very high-energy plasma is essentially bare nuclei swimming in a sea of electrons.

When such a plasma cooled, ions gradually take back confused electrons. Such a state can be stable under certain conditions. Such phase transitions are common to other states of matter. So there are no grounds for criticizing the plasma as a state of matter.

Also, there are free electrons in metals and metal can electrify taking away these free electrons.

(Under certain conditions, the matter can exist in the form of ions, for example under high thermal energii)