Polarisation properties of electromagnetic radiation are explained by its oscilating electric field and magnetic field. By convention we take electric field. As the oscilating electric field needs to oscilate in a plane. the component of this oscilating field can be taken onto another plane. Through polarisation we are filtering out the preferred plane in which electric field is oscilating. But in case of electron there is no oscilating electric field in a plane due to which we cannot polarise it using the same methods as with electromagnetic radiation.