

(3) If the electrons in one raindrop could be removed from the Earth without removing the protons, by how much would the potential of the Earth be increased?

Raindrops are generally smaller than one imagines, but perhaps a 3-mm diameter is not unreasonably large. That is a 14-mg drop, containing 5×10^{21} electrons. If you keep your units straight, you will find that removing that much negative charge from the Earth raises the potential of the whole Earth by 1.2 megavolts. Matter really is full of electricity!