“Detection of Terrestrial Milicharges”
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Abstract: Millicharged particles with charge just evading accelerator bounds, possess charge large enough to accumulate on earth and cause gigantic build-up over the age of the earth. I introduce anew idea that sets exquisite bounds on millicharged particle dark matter and promises to reach interesting parameter space in the near future. The new detection concept involves the remarkable sensitivity of standard model ions trapped in E&M fields which are being developed for quantum computing. If time permits another exotic signature; darker matter – standard model bound states mediated by a heavy dark photon will also be presented.