Error Accounting in Electron Counting Experiments \(^1\) MICHAEL WULF, ALEXANDER B. ZORIN, Physikalisch Technische Bundesanstalt — Electron counting experiments attempt to provide a current of a known number of electrons per unit time. We propose architectures utilizing a few readily available electron-pumps or turnstiles with error rates of 1 part in 10\(^4\) with common sensitive electrometers to achieve the desirable accuracy of 1 part in 10\(^8\). This is achieved not by counting electrons but by counting the errors of individual devices; these are less frequent and therefore readily recognized and then accounted for. We thereby ease the route towards quantum based standards of current and capacitance.

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Michael Wulf
Physikalisch Technische Bundesanstalt

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