Erratum

Erratum: Average energy expended per ion pair in liquid argon
[Phys. Rev. A 9, 1438 (1974)]

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In this experiment, a terminator of 100 Ω (not shown in Fig. 1) was used at the receiving end of the test pulser in the charge-sensitive preamplifier. Then the terminator side of the capacitor C_{in} can be regarded as grounded because of the small impedance of the terminator. Thus, Eq. (1) should be written as

$$V_l = \frac{eE_c}{W_l} \cdot \frac{A}{C_{in} + C_s + C_l + (1+A)C_f} G. \qquad (1')$$

Also, Eq. (2) should be written in the following precise form:

$$V_{tl} = C_{in} V_t \frac{A}{C_{in} + C_s + C_l + (1+A)C_f} G. \qquad (2')$$

Accordingly, from Eqs. (1') and (2'), Eq. (3) is written as

$$W_l = eE_c \frac{V_{tl}}{V_l} \frac{1}{C_{in} V_t}. \qquad (3')$$

Then W_l can be written as in Eq. (5) without any discussion of the accuracy limit concerning Eq. (4). As a result, W_l determined for the liquid argon should be 23.6 ± 0.3 eV, not $23.6^{+0.5}_{-0.3}$ eV.