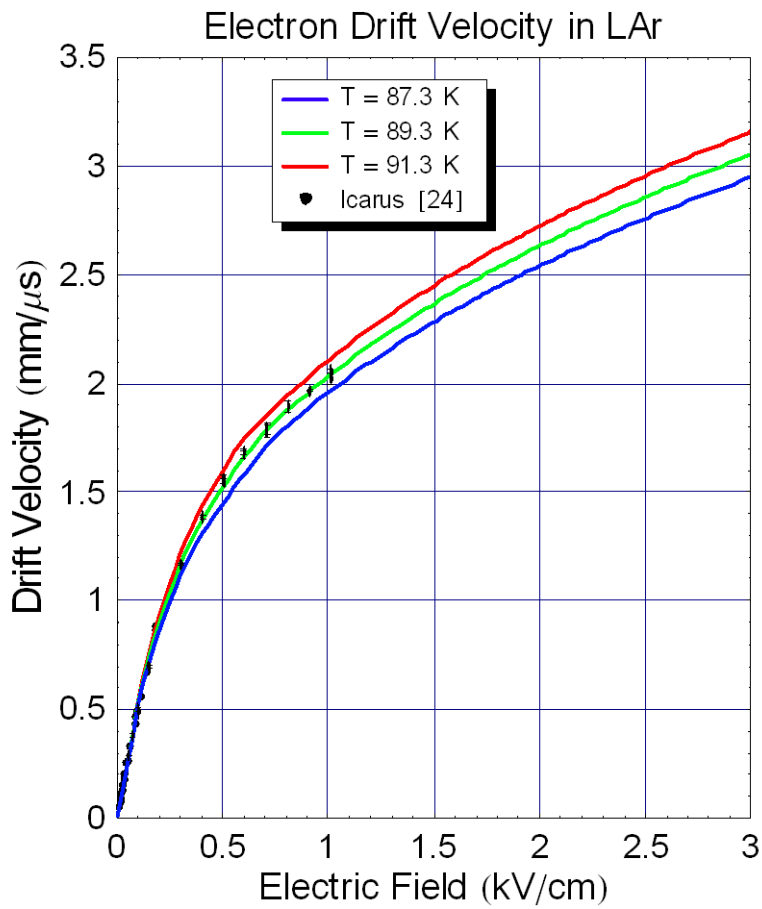
Electron drift velocity [22, 23, 24, 25]



Kalinin empirical function[22] fit to Icarus[24] and Aprile[25] data:

$$v_{e^-,DRIFT} = (1 + p1(T - t0)) \times (p3\,E\,Ln[1 + p4/E] + p5\,f^{p6}) + p2(T - t0)$$

$v_{e^-,DRIFT}$ = electron drift velocity in mm/μs

T = temperature in K

E = electric field in kV/cm

$valid\ for\ 87 \le T \le 94\ and\ 0.3 \le E \le 0.8$

$p1 = -0.0462553$ p2=0.0148508 $p3 = 1.64156$ $p4 = 1.273$

$p5 = 0.0086608$ $p6 = 4.71489$ $t0 = 104.326$

Curves in the figure are this parameterization below 0.7 kV/cm, merging smoothly (continuous derivative) with Walkowiak [23] parameterization above 0.8 kV/cm.