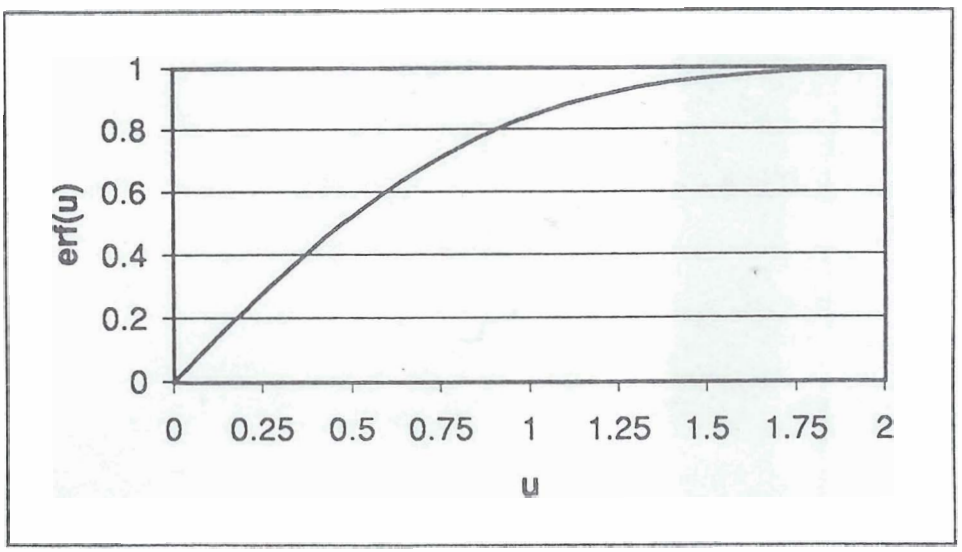
the surface. This equation can be rearranged to give dimensionless temperature(θ)

$$\theta = \frac{T(x,t) - T_s}{T_0 - T_s} = erf\left(\frac{x}{\sqrt{4\alpha t}}\right) = erf\left(\frac{1}{2\sqrt{Fo(x)}}\right) \tag{29}$$

The 'error function' is defined as follows:

$$erf(u) = \frac{2}{\sqrt{\pi}}\int_0^u e^{-v^2} dv \tag{30}$$

The error function varies between 0 and 1 as u goes from 0 to infinity. The factor $2/\pi^{1/2}$ normalizes the error function so that it approaches 1 as u approaches infinity. Values of the error function are given in Fig. 6.7.



u	erf(u)	u	erf(u)	u	erf(u)	u	erf(u)
0	0	0.30	0.3286	0.75	0.7112	1.40	0.9523
0.02	0.0226	0.35	0.3794	0.80	0.7421	1.50	0.9661
0.04	0.0451	0.40	0.4284	0.85	0.7707	1.60	0.9763
0.06	0.0676	0.45	0.4755	0.90	0.7969	1.70	0.9838
0.08	0.0901	0.50	0.5205	0.95	0.8209	1.80	0.9891
0.10	0.1125	0.55	0.5633	1.00	0.8427	1.90	0.9928
0.15	0.1680	0.60	0.6039	1.10	0.8802	2.00	0.9953
0.20	0.2227	0.65	0.6420	1.20	0.9103	2.50	0.9996
0.25	0.2763	0.70	0.6778	1.30	0.9340	3.00	1.0000

Figure 6.7 Values of the error function