A Hyp functions

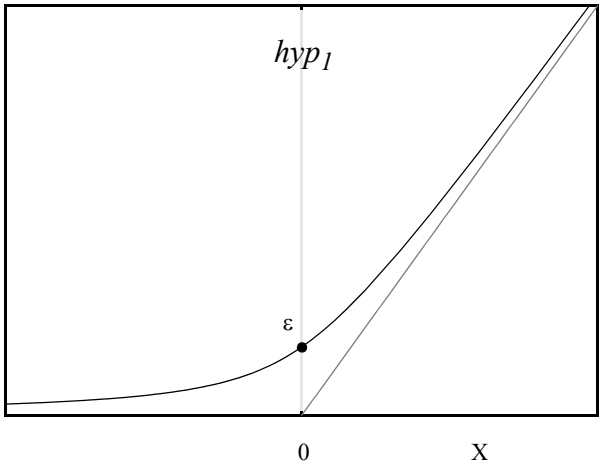

Figure 85: $hyp_1(x;\varepsilon) = \frac{1}{2} \cdot (x + \sqrt{x^2 + 4 \cdot \varepsilon^2})$

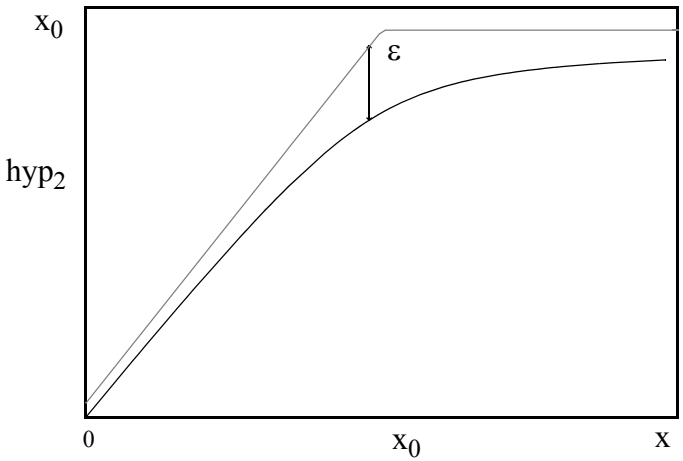

Figure 86: $hyp_2(x;x_0;\varepsilon) = x - hyp_1(x - x_0;\varepsilon)$

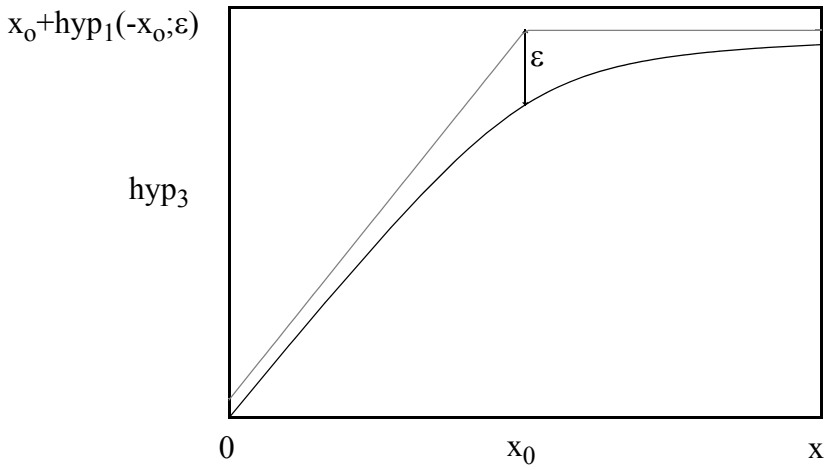

Figure 87: $hyp_3(x;x_0;\varepsilon) = hyp_2(x;x_0;\varepsilon) - hyp_2(0;x_0;\varepsilon)$ *for* $\varepsilon = \varepsilon(x_0)$

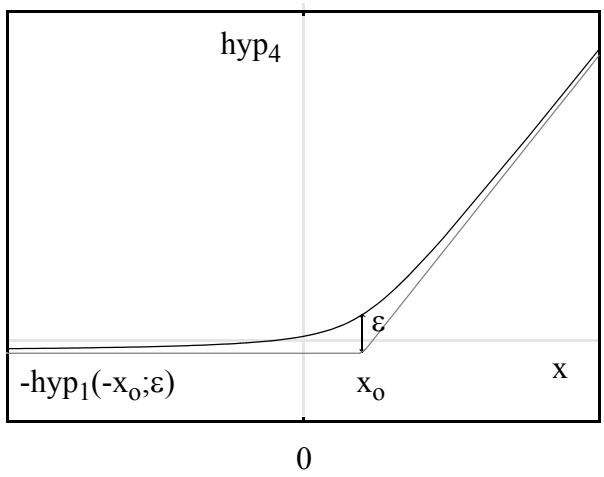

Figure 88: $hyp_4(x;x_0;\varepsilon) = hyp_1(x - x_0;\varepsilon) - hyp_1(-x_0;\varepsilon)$

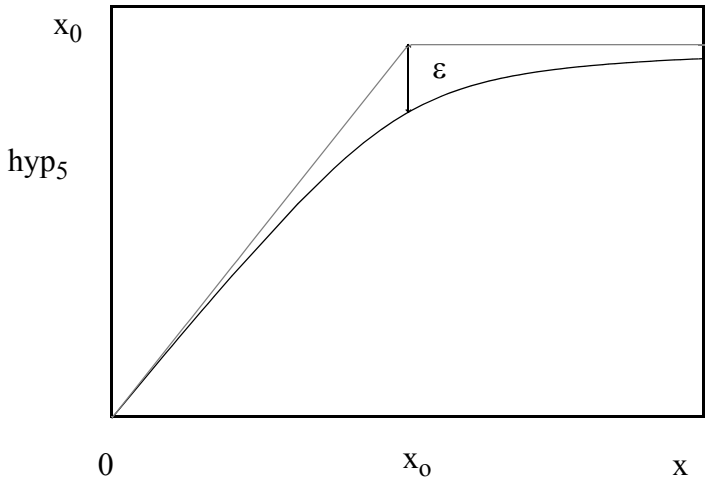

Figure 89: $hyp_5(x;x_0;\varepsilon) = x_0 - hyp_1\left(x_0 - x - \frac{\varepsilon^2}{x_0},\varepsilon\right)$ *for* $\varepsilon = \varepsilon(x_0)$

MOS model 2001 Auxiliary functions

The hyp-function:

$$hyp[x;\varepsilon] = \frac{1}{2} \cdot (x + \sqrt{x^2 + 4 \cdot \varepsilon^2}) \tag{17.131}$$

The hypm-function:

$$hypm[x,y;m] = \frac{x \cdot y}{(x^{2 \cdot m} + y^{2 \cdot m})^{1/(2 \cdot m)}} \tag{17.132}$$