Transmission energy of the coupled region with different taper region length $L_{Taper} = 100 \mu m$ 1.00 $L_{Taper} = 300 \mu m$ $L_{Taper} = 500 \mu m$ $L_{Taper} = 700 \mu m$ 0.00 -100.0 400.0 700.0 1000.0 1300.0 1600.0 1900.0 2200.0 2500.0 2800.0 3100.0 3400.0 3700.0 4000.0 4300.0 4600.0 Length of the coupling region (μm)