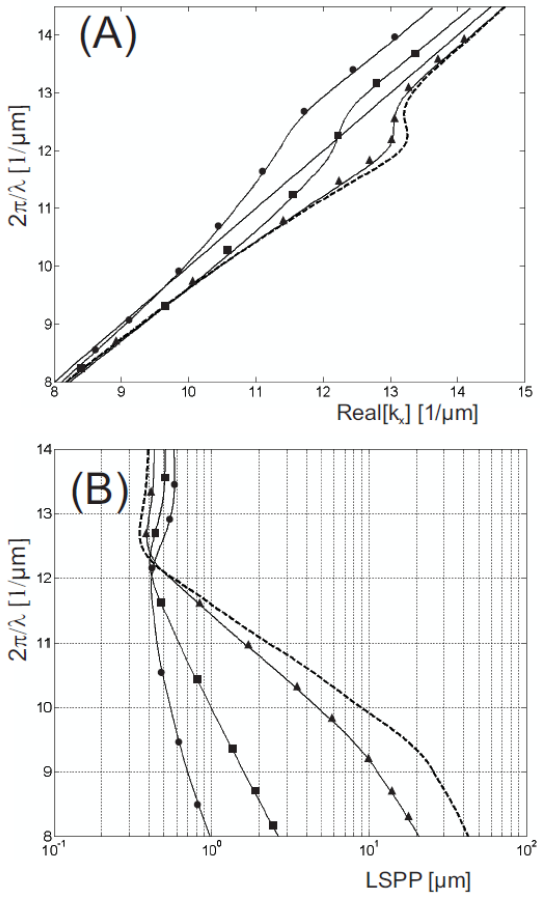

FIG. 3: Dispersion relations of SPP waves propagating along an air/gold interface and leaking into glass. The dispersion is calculated for four film thickness D : 70 nm (dashed line curve)es, 50 nm (continuous line with triangular markers), 20 nm (continuous line with square markers), and 10 nm (continuous line with circular markers).(A) Real part of the dispersion relations showing the evolution of k'_x with $\omega/c = 2\pi/\lambda$. The light cone corresponding to optical wave propagating in air (i. e., in the bulk medium) is represented by a continuous line. (B) Imaginary part of the dispersion relations showing the evolution of L_{SPP} with $\omega/c = 2\pi/\lambda$.

dispersion relation is identical to the dispersion for the single air/gold interface for semi infinite media. However, for smaller thickness the coupling between the interface increases and the propagation length decreases as shown on Fig. 3 B. The magnetic field associated