1016-33-93 **Hans W Volkmer*** (volkmer@uwm.edu), Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201. *Instability intervals of the Ince and Hill equations.*

We investigate the length L_m of the mth instability interval of the Hill equation $(1+\epsilon A(x))y''+\epsilon B(x)y'+(\lambda+\epsilon C(x))y=0$ with $A(x)$, $B(x)$, $C(x)$ being trigonometric polynomials. The leading term in the expansion of L_m in powers of the perturbation parameter ϵ is found. The results are extensions of earlier work of Levy and Keller (1963). (Received February 04, 2006)