5. 已知函数$f(x)=\cos^2 x-\sin^2 x$，则（　）

A. $f(x)$在$(-\frac{\pi}{2},-\frac{\pi}{6})$上单调递减

B. $f(x)$在$(-\frac{\pi}{4},\frac{\pi}{12})$上单调递增

C. $f(x)$在$(0,\frac{\pi}{3})$上单调递减

D. $f(x)$在$(\frac{\pi}{4},\frac{7\pi}{12})$上单调递增