Electronic Supplementary Information

CNC-Al$_2$O$_3$-Ti: a new unit for micro scale strain sensing

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1. The stability of Ti film in air

Figure S1 shows the Raman spectra of Ti and TiO$_2$ film deposited on the silicon substrate. Four main peaks are observed in the Raman spectra of TiO$_2$: one at approximately 520 cm$^{-1}$, is the characteristic peak of the Si. The other three are at approximately 142 cm$^{-1}$, 395 cm$^{-1}$ and 637 cm$^{-1}$, known as the peak of TiO$_2$. From the Raman spectra of the same Ti film deposited on a Si substrate as grown and a week after. It is found that there is no peak of TiO$_2$, only the peak of Si. This proves that Ti film is not easily oxidized in air.

![Figure S1. The Raman spectra of Ti and TiO$_2$ film on the silicon substrate](image)