



微機電接觸表面檢測方法

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簡歷：

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實驗室網頁：<http://ntureso.com>

市場及需求：微機電慣性感測元件、微機電加速度計、接觸表面狀態檢測，表面塗層檢測、黏滯力檢測

技術摘要(含成果)：透過非線性掃頻技術，推估微機電慣性感測器表面(塗層)狀況，提供塗層均勻度及元件可靠度的參照。目前已有初步實驗結果證實在金屬及其氧化物的接觸表面材料下，非線性頻率響應表現出顯著變化。

優勢：此檢測裝置可與待測元件直接整合，晶片封裝後仍可進行檢測，且可對結構垂直側壁進行檢測。

競爭產品：微機電表面檢測技術、黏滯力檢測技術

專利現況：

(1)本技術正申請美國專利

(2)本提案人對此技術具有十年以上相關研發經驗

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Method for Characterizing MEMS Surface Condition

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Institute of Applied Mechanics, National Taiwan U.

Experience:

Assistant Professor, Institute of Applied Mechanics, NTU, 2016/08-present

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Market Needs:

MEMS inertial sensors, MEMS accelerometers, contact surface characterization, surface coating inspection, stiction inspection

Our Technology:

Via nonlinear frequency sweeping, this technique can estimate the surface coating condition in MEMS inertial sensors and provide the reference for the uniformity of surface coating and component reliability. The preliminary measured results shows that the contact surface of metal and its metal oxide present distinct frequency responses.

Strength:

This inspection device can be directly integrated with the device-under-test (DUT) and therefore, it can perform inspection after being packaged. In addition, the technology can characterize the structure sidewall surfaces.

Competing Products:

MEMS surface inspection technique, stiction inspection technique, atomic force microscopy (AFM)

Intellectual Properties:

- (1) This technique is applying for US patent.
- (2) Over ten years of development experience on this technique.

Contact (do not need to fill out):

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