

INTELLIGENT STRUCTURAL ELEMENTS COVERED BY PIEZOELECTRIC HIGH-POLYMER FILM

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Abstract- If a piezoelectric material is deformed, the local electric field is caused by the electromechanical interaction. When a structural element with surface defects is subjected to the stress, the strain distribution appears also on the opposite surface to the defects. Such localized strain distribution can be measured by the electric potential distribution on a piezoelectric film mounted on the smooth surface. This paper shows that back-surface defects in typical structural elements can be visualized by mounted PVDF thin film.