

Title (en)

MASS-SENSITIVE THIN-FILM RESONATORS FOR LAYER THICKNESS MEASURING SYSTEMS

Title (de)

MASSENSENSITIVE DÜNNSCHICHTRESONATOREN FÜR SCHICHTDICKENMASSSYSTEME

Title (fr)

RÉSONATEURS À COUCHES MINCES SENSIBLES À LA MASSE POUR DES SYSTÈMES DE MESURE D'ÉPAISSEUR DE COUCHE

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Application

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Abstract (en)

[origin: WO2007140943A1] The present invention relates to a layer thickness sensor for monitoring deposition processes and to a method for monitoring layer deposition processes in microsystem technology and nanotechnology. In order to provide an improved sensor which makes it possible to determine layer thicknesses in the region of less than approximately 0.2 nm, the invention proposes using mass-sensitive, piezoelectric thin-film resonators which are polarized both longitudinally and transversally for such layer thickness measuring systems. Temperature compensation can be additionally carried out by exciting at least two different oscillation modes at different frequencies and with a different temperature response and by means of corresponding calculation.

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