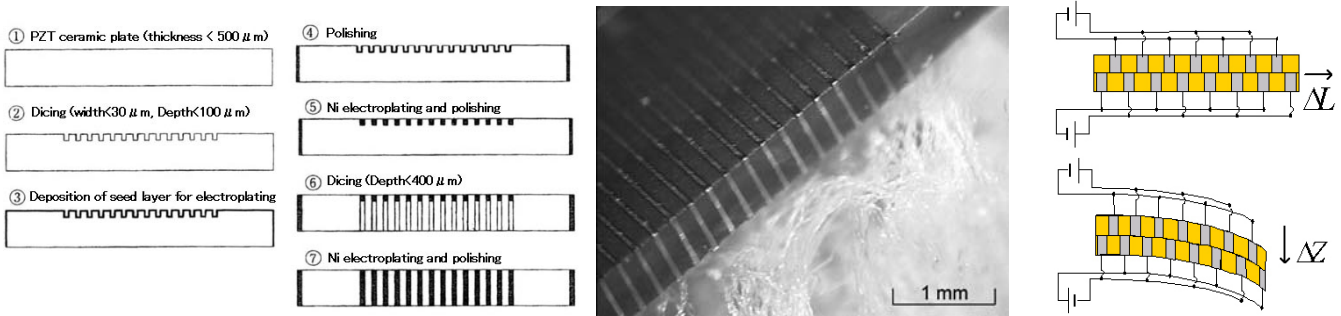
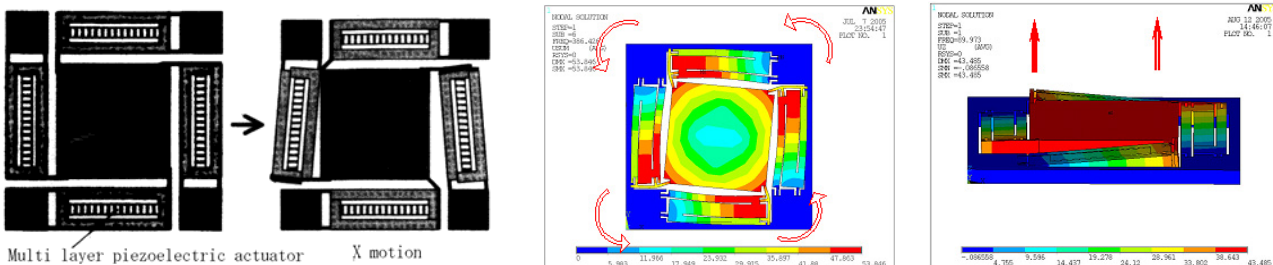


# Piezoelectric Micro Stage



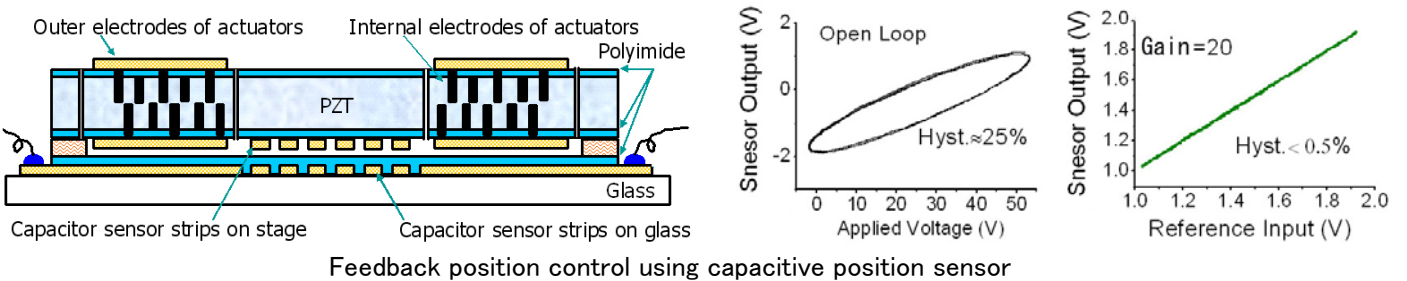
Multi-layer actuator by dicing PZT ceramic plate and filling the groove with electroplated metal

Reference : G.Suzuki and M.Esashi, Planer Fabrication of Multilayer Piezoelectric Actuator by Groove Cutting and Electroplating, Proc. of the Micro Electro Mechanical Systems'2000 (2000) pp.46-51



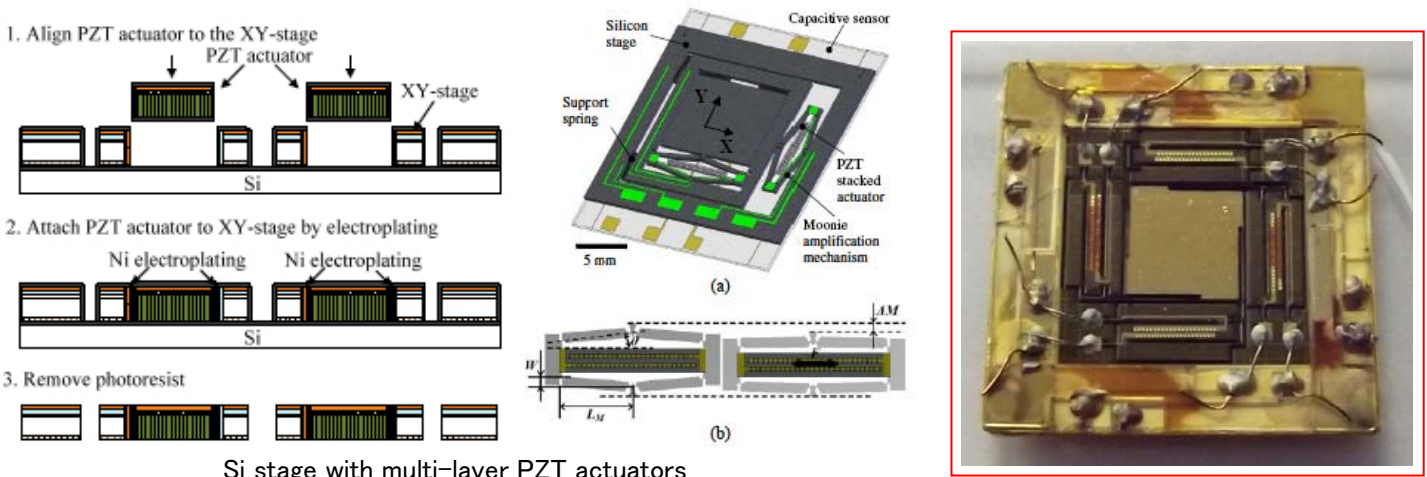
XYZ  $\theta$  stage made of PZT ceramic plate

Reference : D.Zhang, C.Chang, T.Ono and M.Esashi, A Piezodriven XY-microstage for Multiprobe Nanorecording, Sensors and Actuators, A 108 (2003) pp.230-233



Feedback position control using capacitive position sensor

Reference : H.G.Xu, T.Ono and M.Esashi, Precise Motion Control of a Nanopositioning PZT Microstage Using Integrated Capacitive Displacement Sensors, J.of Micromech. Microeng., 16 (2006) pp.2747-2754



Si stage with multi-layer PZT actuators

Reference : M.Faizul M.Sabri, T.Ono and M.Esashi, Modeling and Experimental Validation of the Performance of a Silicon XY-microstage Driver by PZT Actuators, J.of Micromech. Microeng., 19 (2009) 095004(9pp)