Replication

Etching: DRIE and RIE

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Material class:	Silicon X	Polymer X	Metal X	Ceramic X	Glass	Organic	Other
Short technology description:	Reactive ion etching is a combination of physical and chemical etching and is used for making high-resolution and/or high aspect ratio structures. We offer etching of metals (Al, Cr, Ti, W(Ti)), dielectrics (SiO, SiN) and Si. Deep Reactive Ion Etching is the pattern transfer method for making high-aspect ratio trenches and vias. DRIE of Si is well known in Si-based MEMS processing, achieving etching depths of more than 100 um, and even through-wafer processing is feasible. The installation on offer has been updated to a STS CPX cluster tool with APS etching chamber. Further, deep etching of silicon oxide can be very interesting for making micro-fluidic channels. Our capability is limited to depths of approximately 20 µm.						
Typical structures and designs: Depending on - material - mask - RIE chemistry							
Special features:	– Deep Si and SiO2 etch						
Limitations, constraints:	– Limited range of materials, mask to be chosen carefully						
Material examples:							