

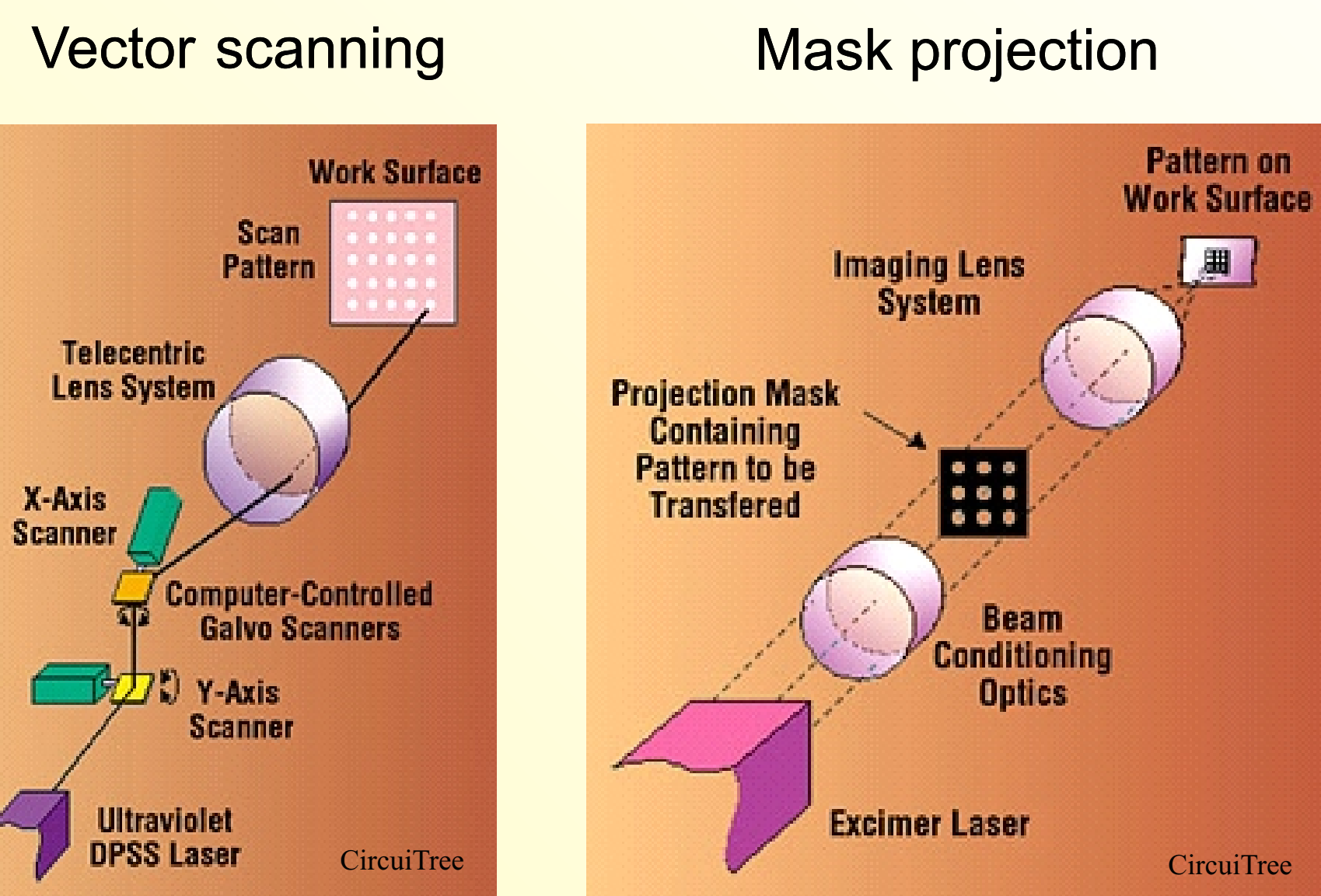
Beam smoothing techniques for (UV)-femtosecond lasers



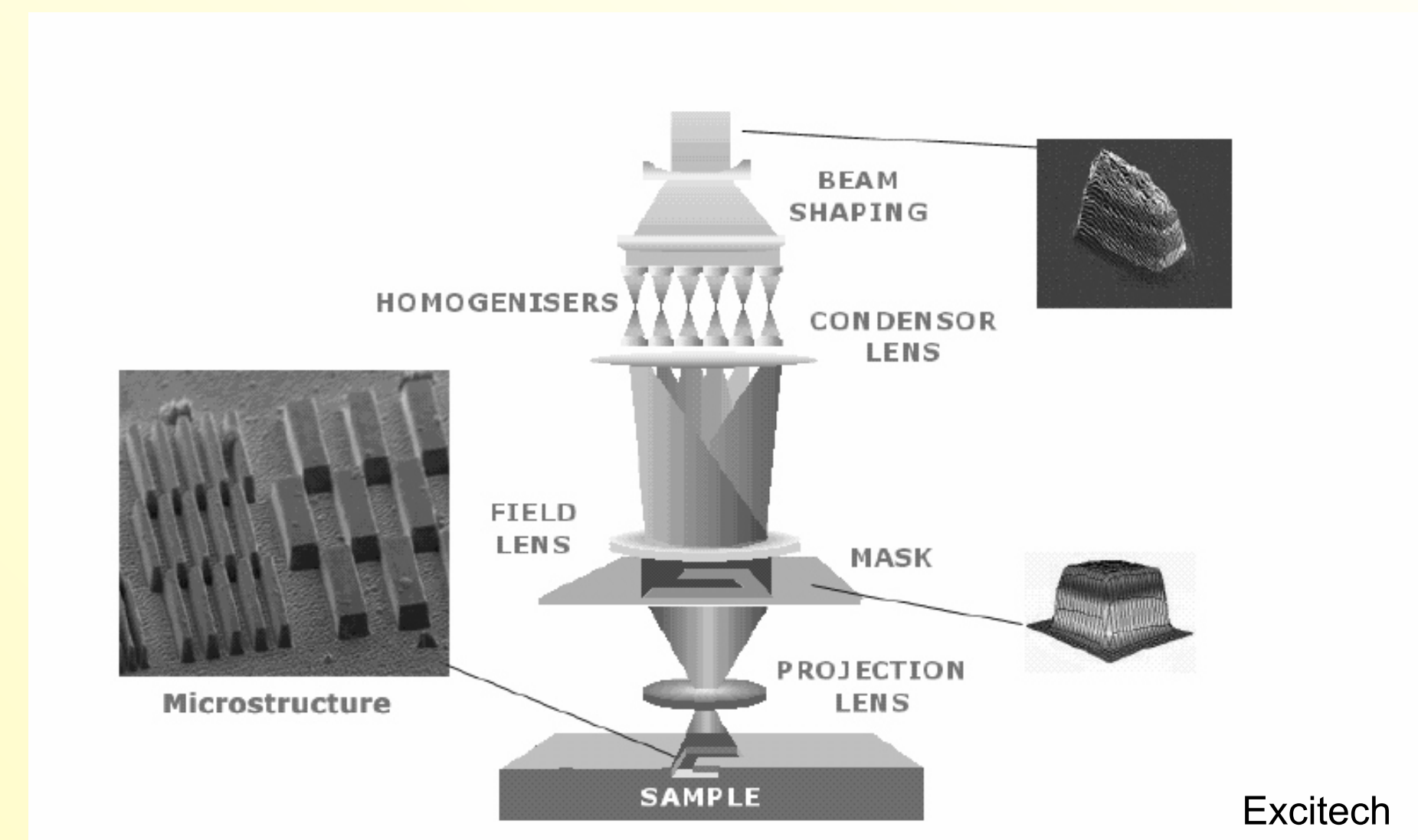
Patent: De10249532, P. Simon, J.-H. Klein-Wiele

Vorrichtung und Verfahren zur Strahlhomogenisierung von Ultrakurzpulslasern

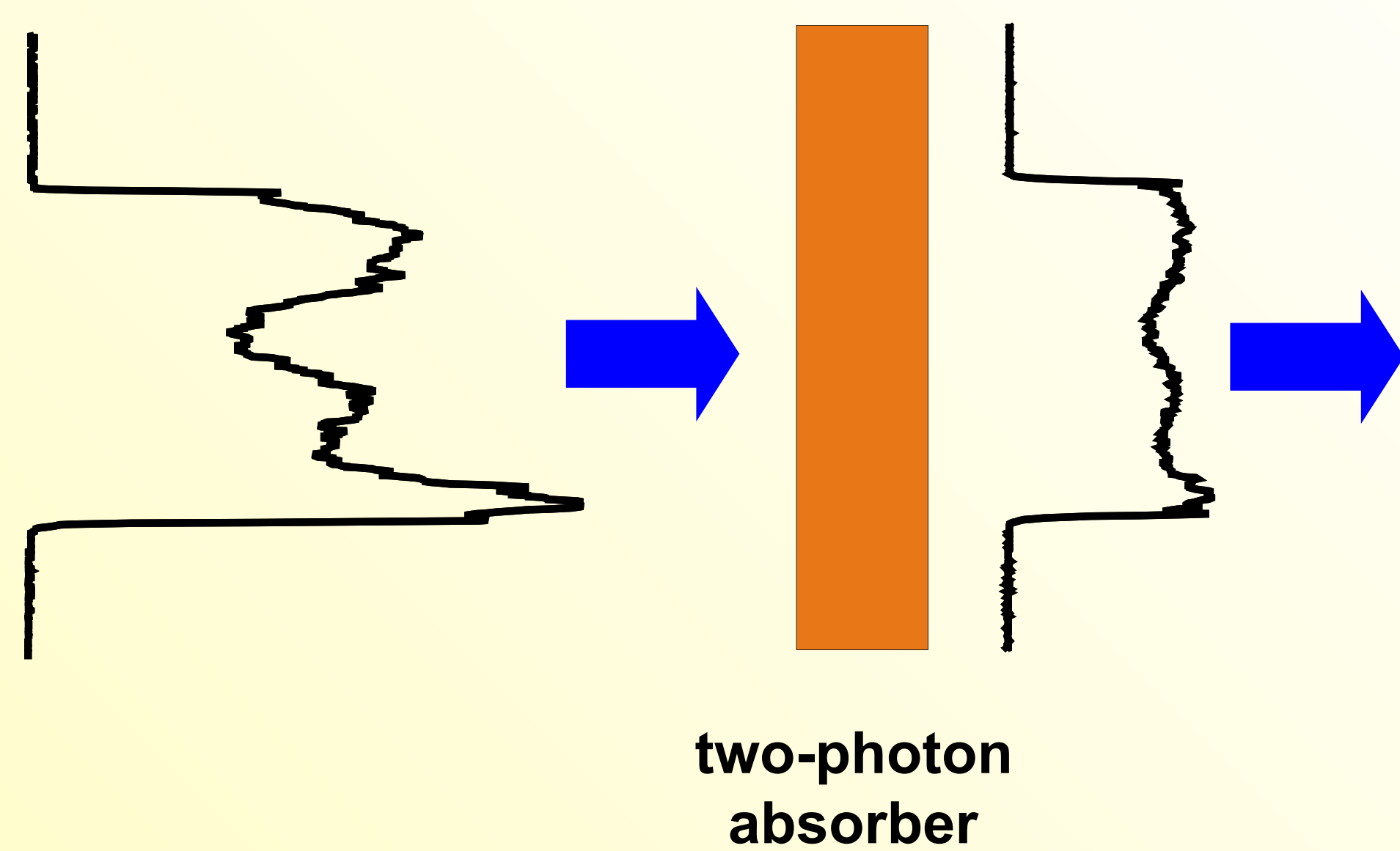
Laser direct writing techniques



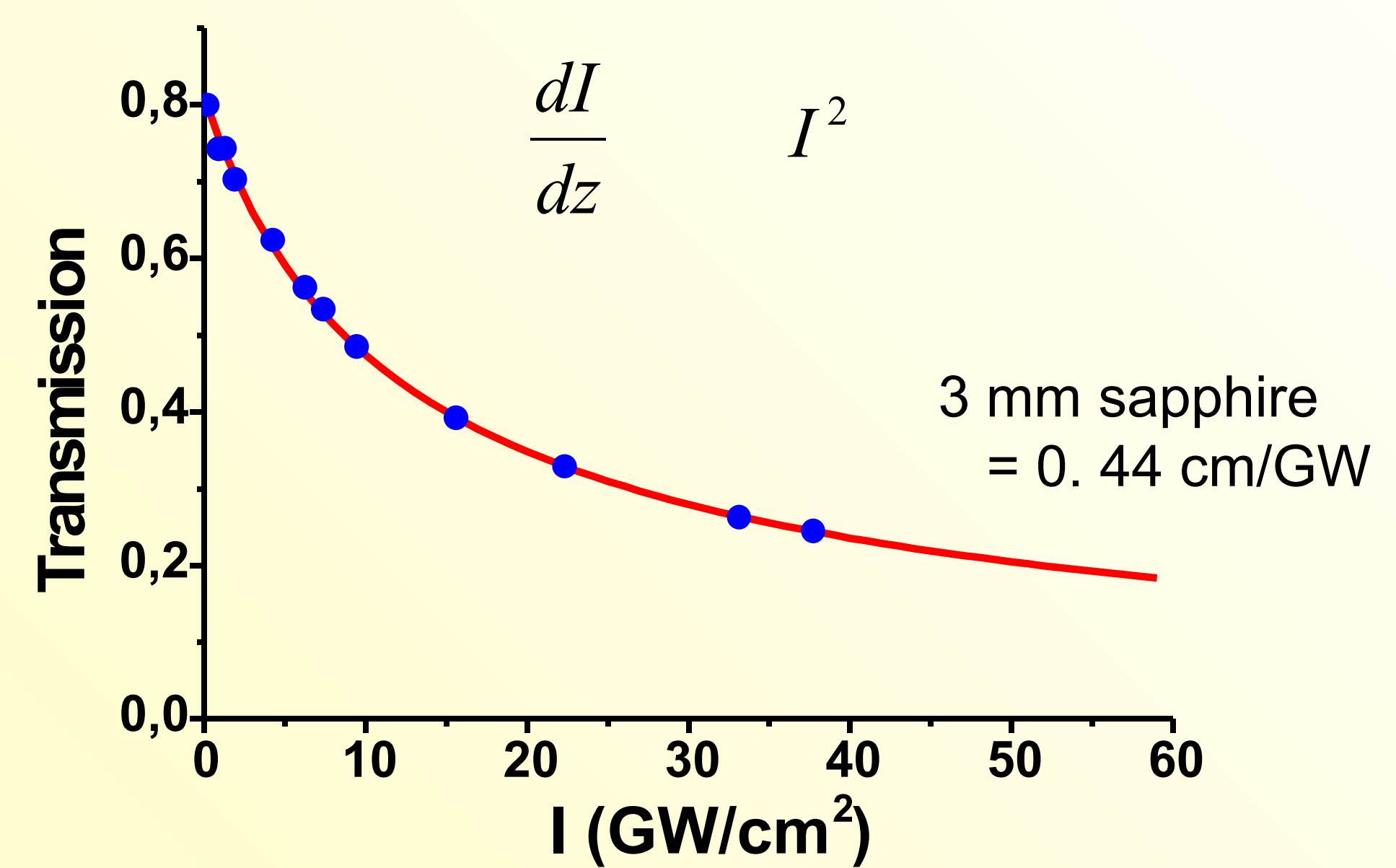
Beam homogenization for ns pulses



Beam smoothing by TPA

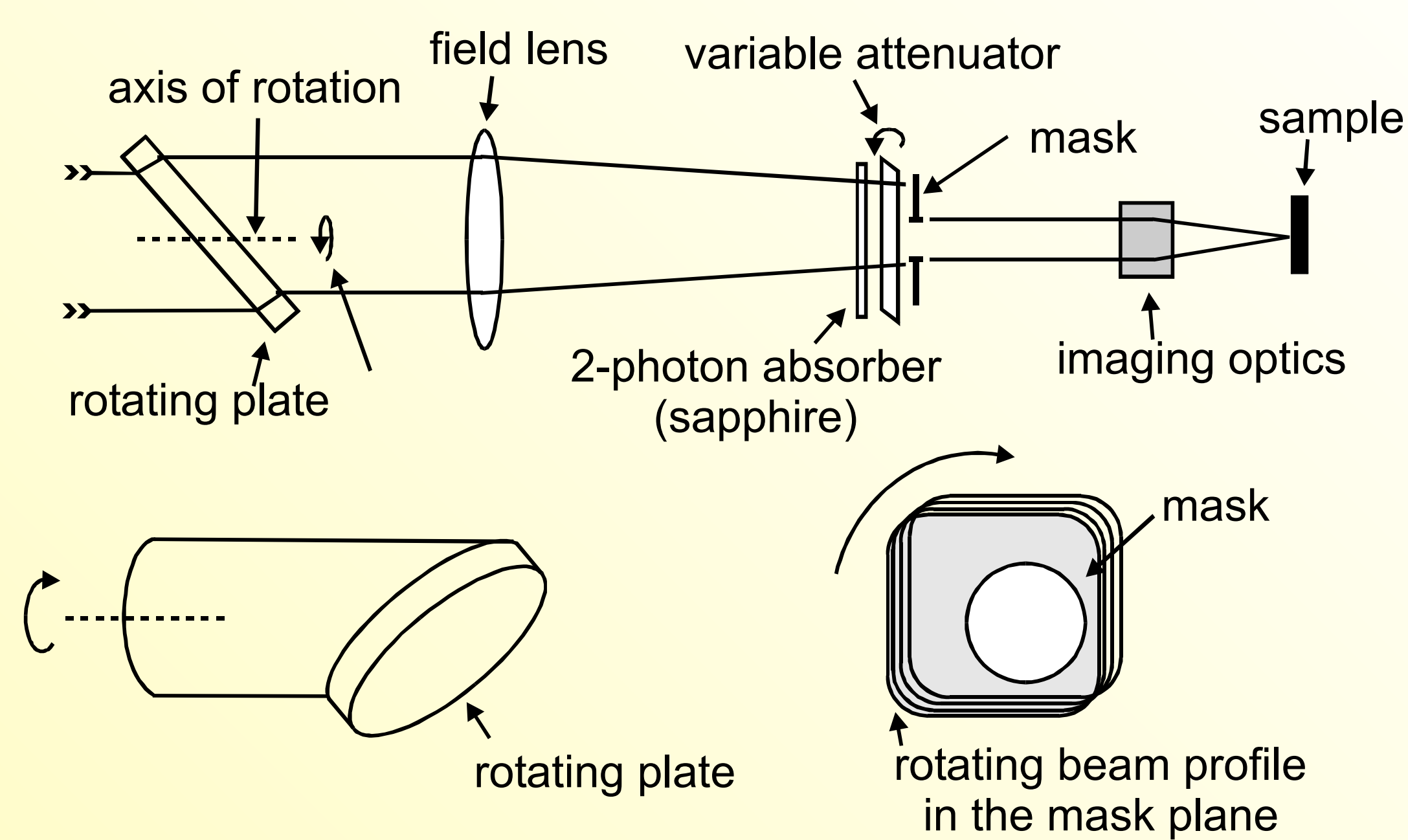


TPA of sapphire at 248 nm

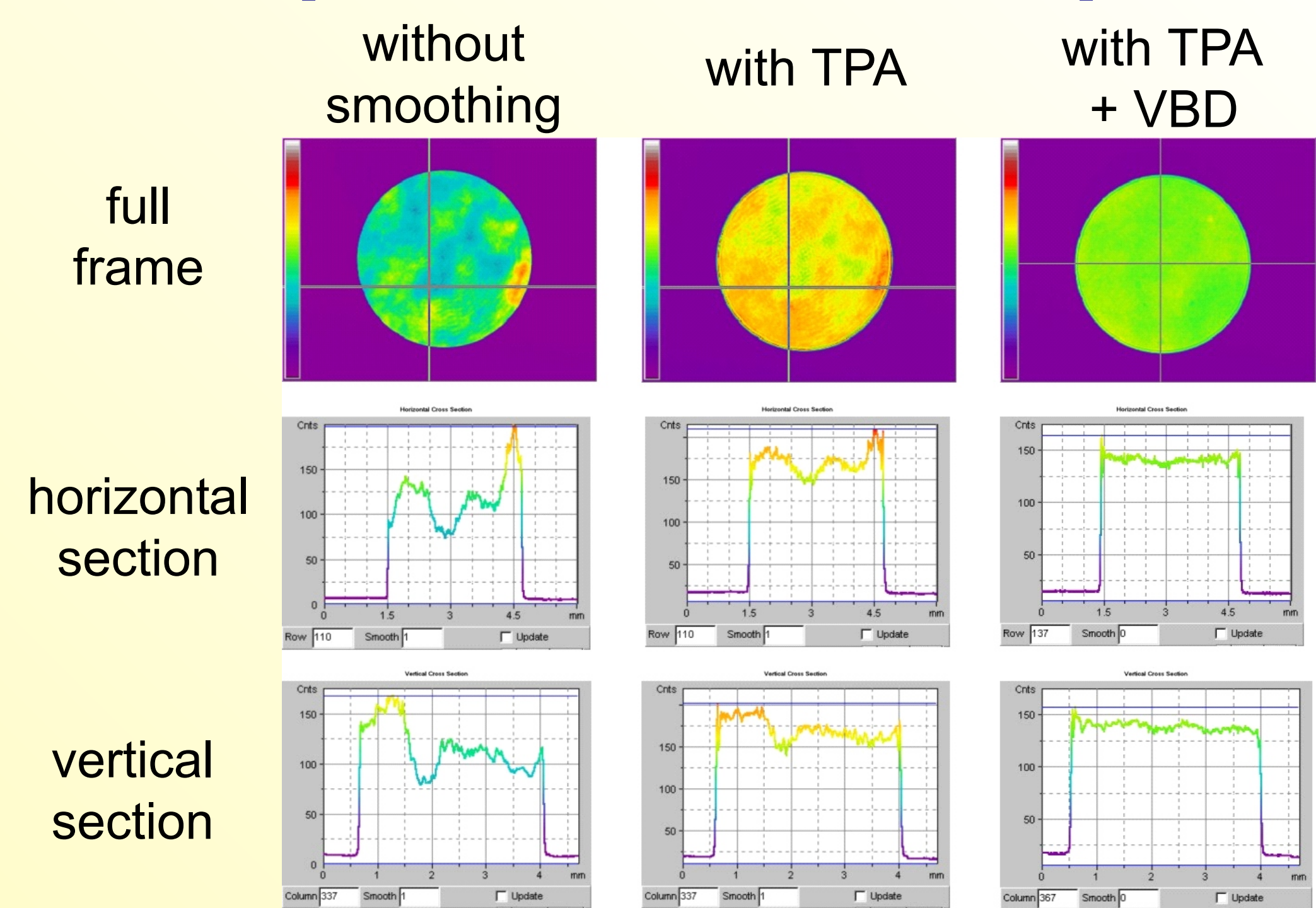


Combined beam smoothing setup

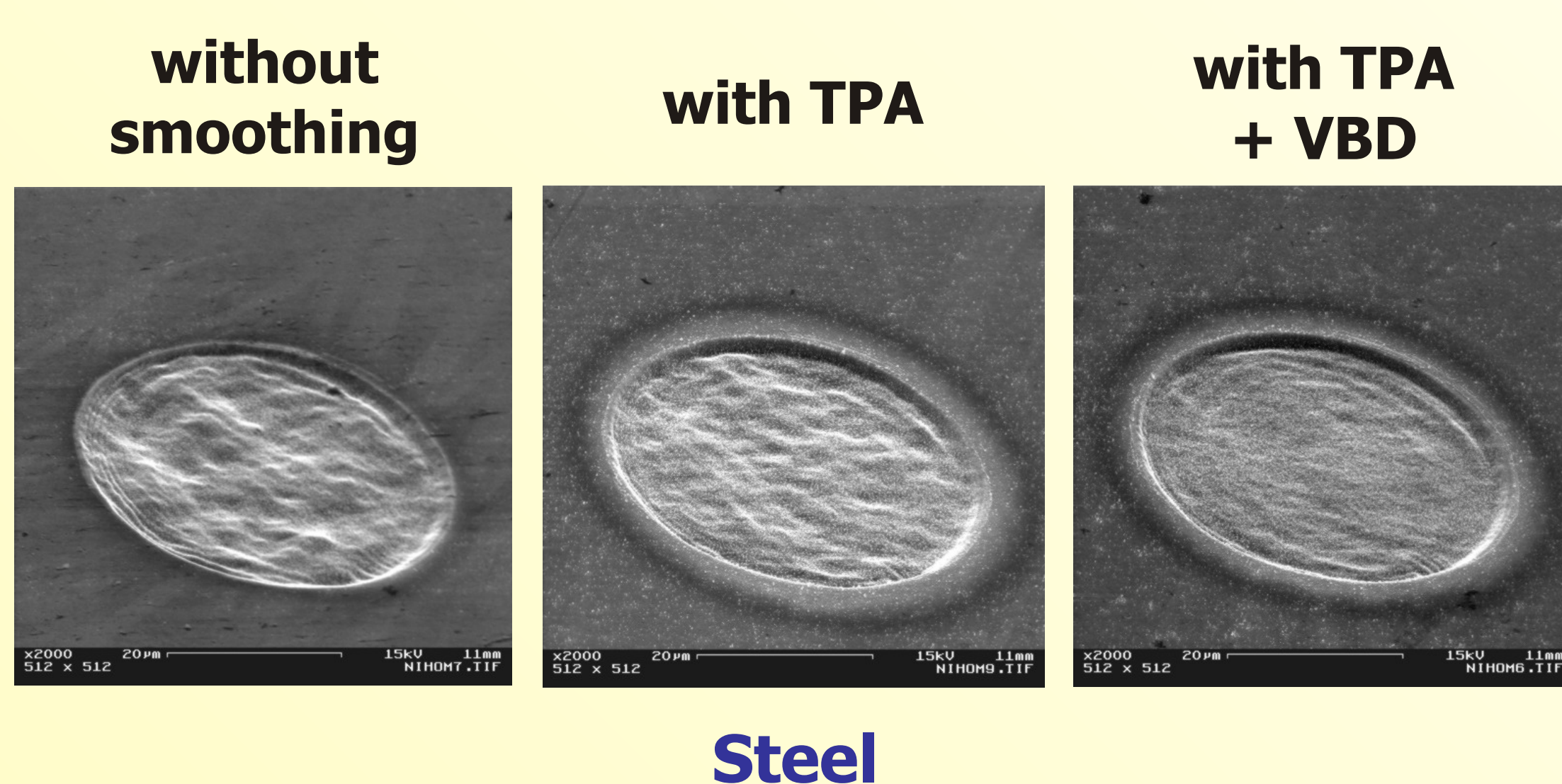
Two-Photon Absorption (TPA) + Variable Beam Displacement (VBD)



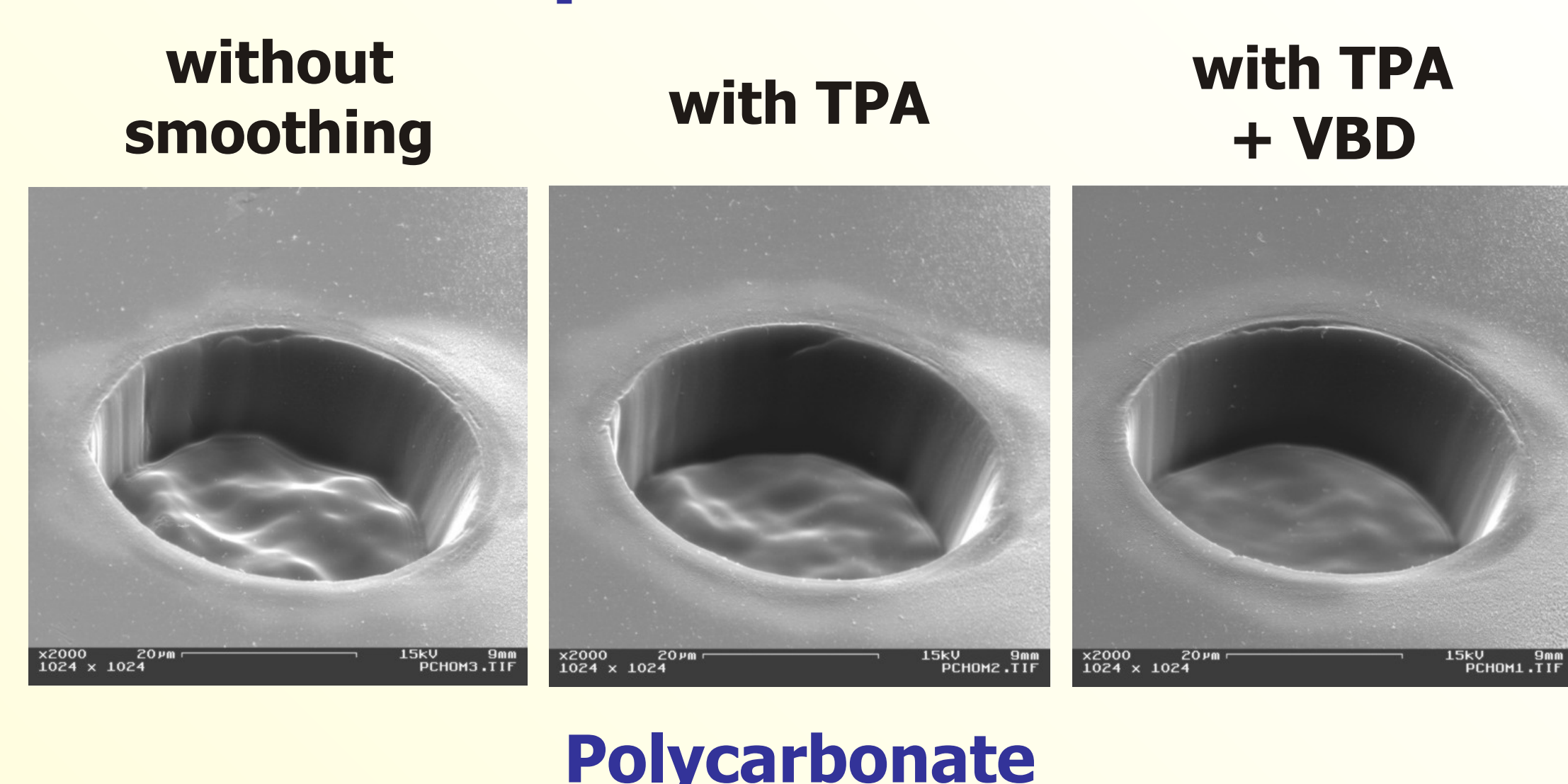
Beam profile across mask plane



Laser ablation with UV-femtosecond pulses



Steel



Polycarbonate