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## **[403] Spatial hole burning in thin-disk lasers and twisted-mode operation**

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Spatial hole burning prevents single-frequency operation of thin-disk lasers when the thin disk is used as a folding mirror. We present an evaluation of the saturation effects in the disk for disks acting as end-mirrors and as folding-mirrors explaining one of the main obstacles towards single-frequency operation. It is shown that a twisted-mode scheme based on a multi-order quarter-wave plate combined with a polarizer provides an almost complete suppression of spatial hole burning and creates an additional wavelength selectivity that enforces efficient single-frequency operation. We want to discuss the disadvantages and benefits of spatial hole burning in different laser systems.

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