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Laterally confined diblock copolymers ROBERTA DESSI, MARCO PINNA, ANDREI ZVELINDOVSKY, University of Central Lancashire — With the help of cell dynamics simulation we investigate the self-assembly of cylinder-forming diblock copolymer thin films laterally confined within square and non-square geometries. The size of the confinement affects the ordering of the block copolymer domains and their symmetry. We found hexagonally packed cylinders and square packed cylinders by changing the box size of the system. In particular we performed several simulations to find that if the size of the pattern is comparable with the natural bulk period of the copolymer the packing symmetry changes from hexagonal to square. In this case the ordering induced by the pattern edges becomes dominant allowing the square lattice to be more stable than the hexagonal one.

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