Optimized geometric configuration of active ring laser gyroscopes
JOHN GORMLEY, TONY SALLOUM, Widener University — We present a thorough derivation of the Sagnac effect for a ring laser gyroscope of any arbitrary polygonal configuration. We determine optimized alternative geometric configurations for the mirrors. The simulations incur the implementation of a lasing medium with the standard square system, triangular, pentagonal, and oblongated square configuration (diamond). Simulations of possible new geometric configurations are considered, as well as the possibility of adjusting the concavity of the mirrors.

Tony Salloum
Widener University