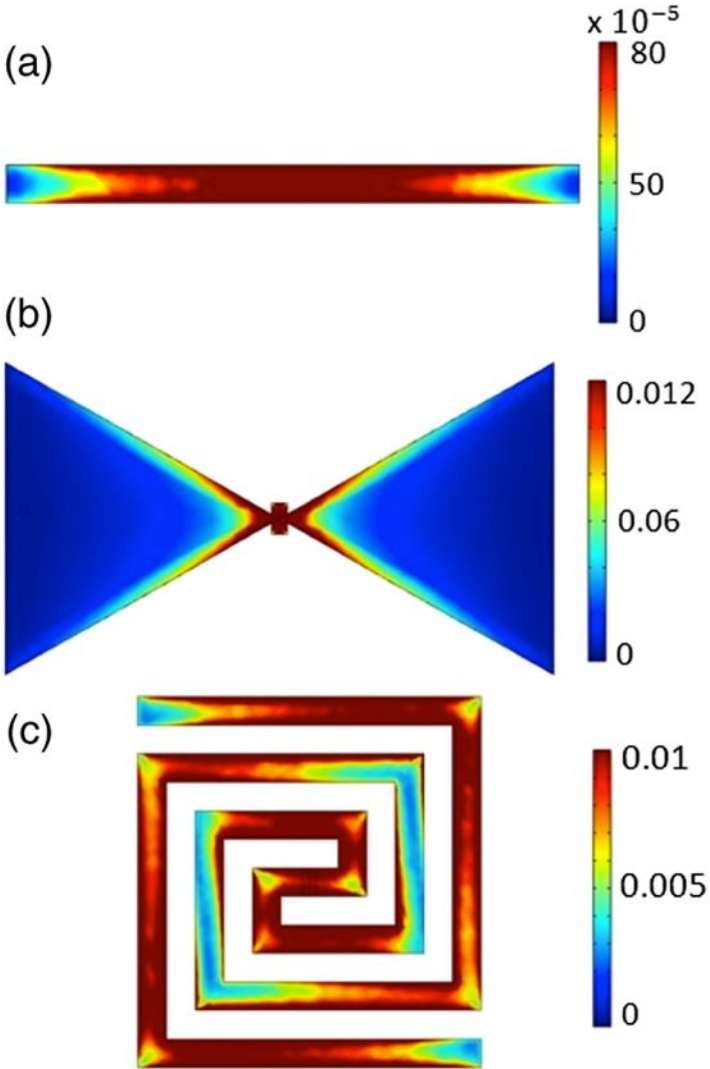


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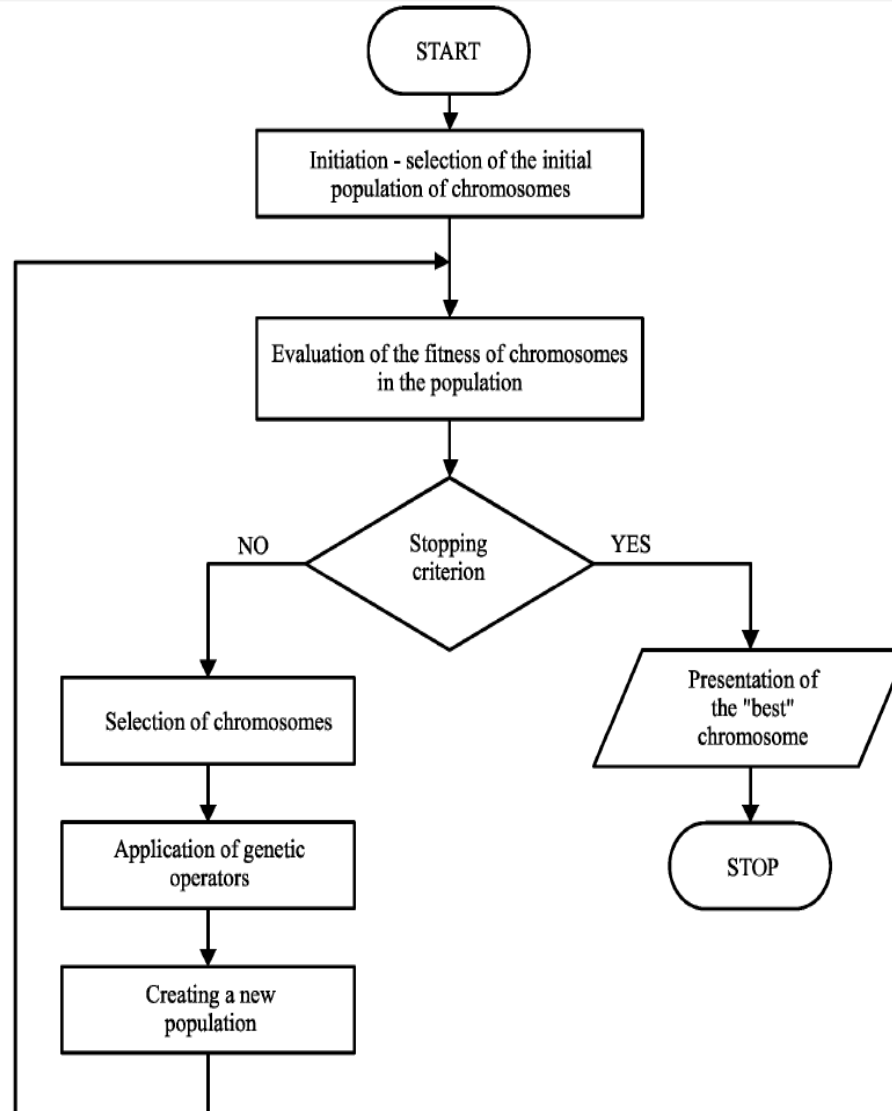
Genetic Algorithm for Geometry Optimization of Optical Antennas

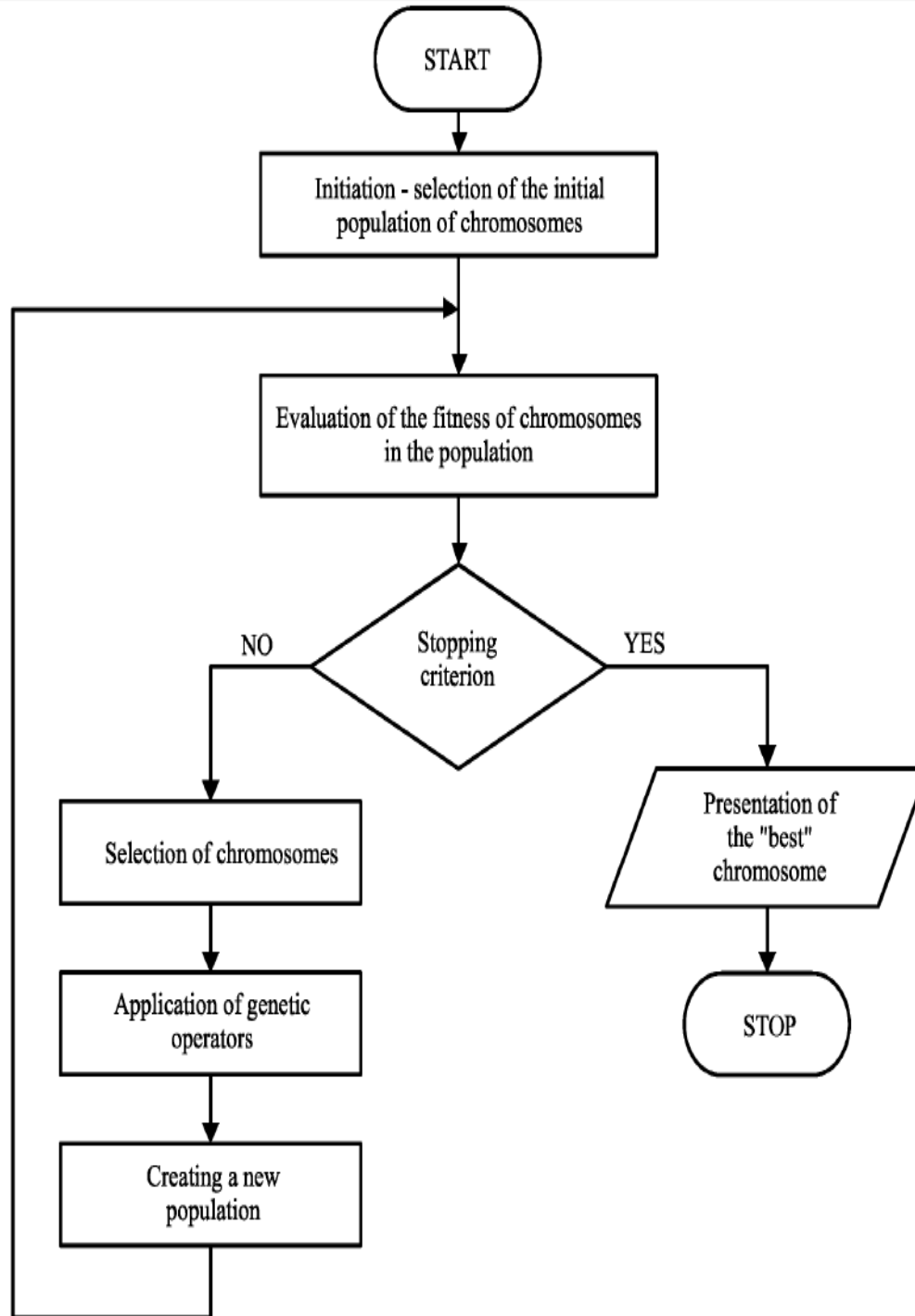


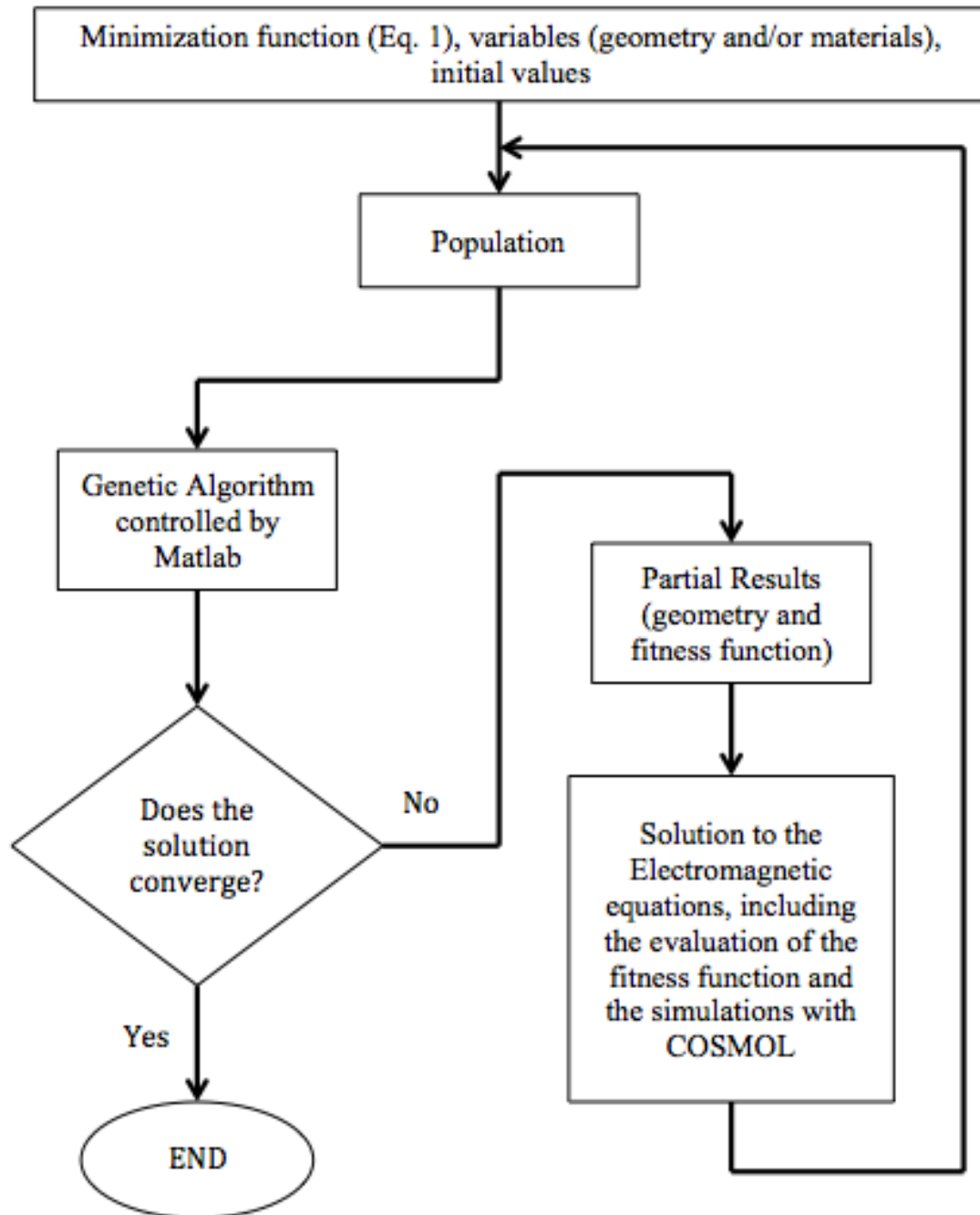
RF GEOMETRIES USED IN OPTICAL ANTENNA DESIGNS



How we can get the optimal geometry?







LiveLink for
Matlab

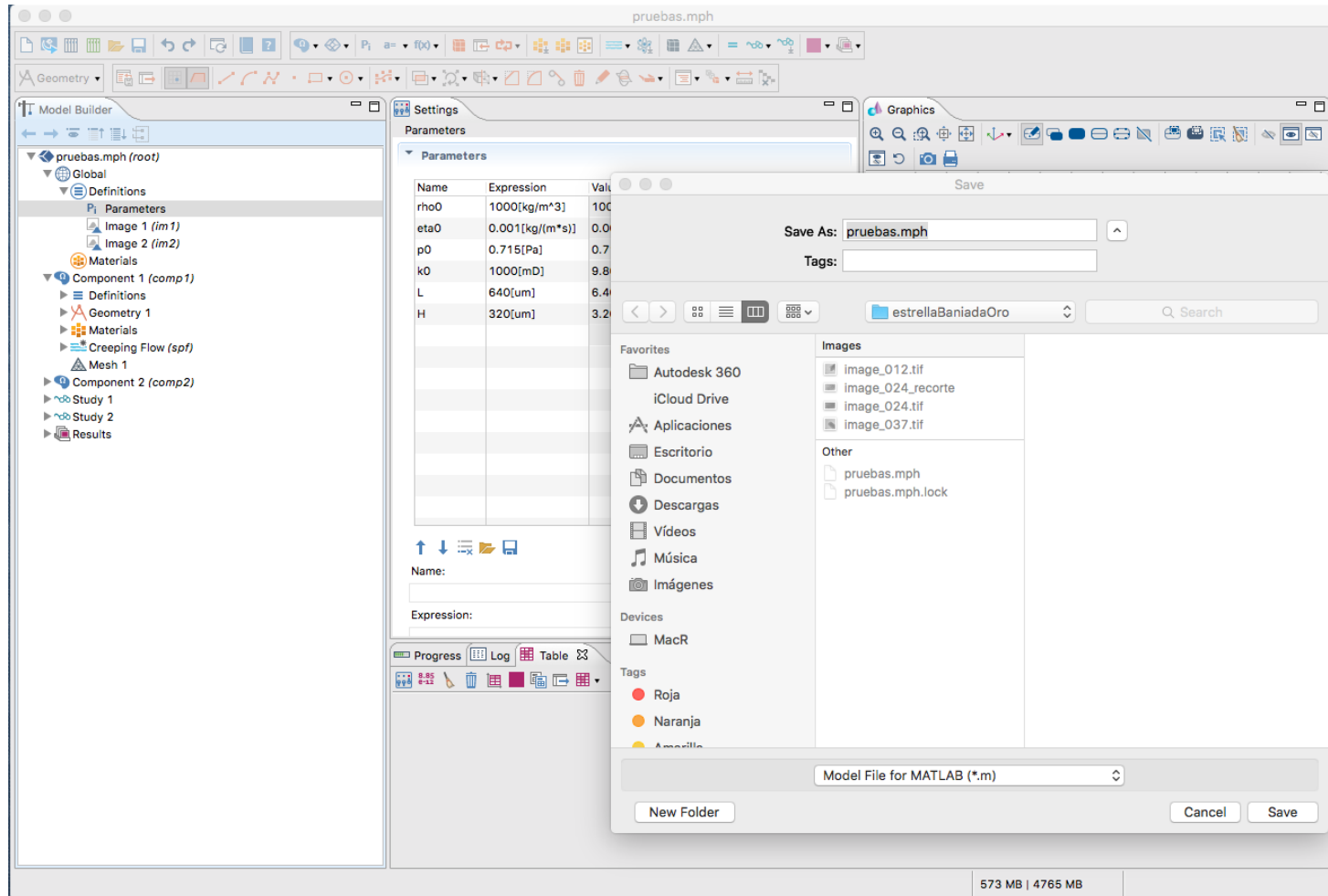
Equations (COMSOL's RF Module)

$$F_{Fitness} = \min \left(\frac{1}{2} \operatorname{Re} \left(J_{tot} \cdot E_{tot} \right) \right)$$

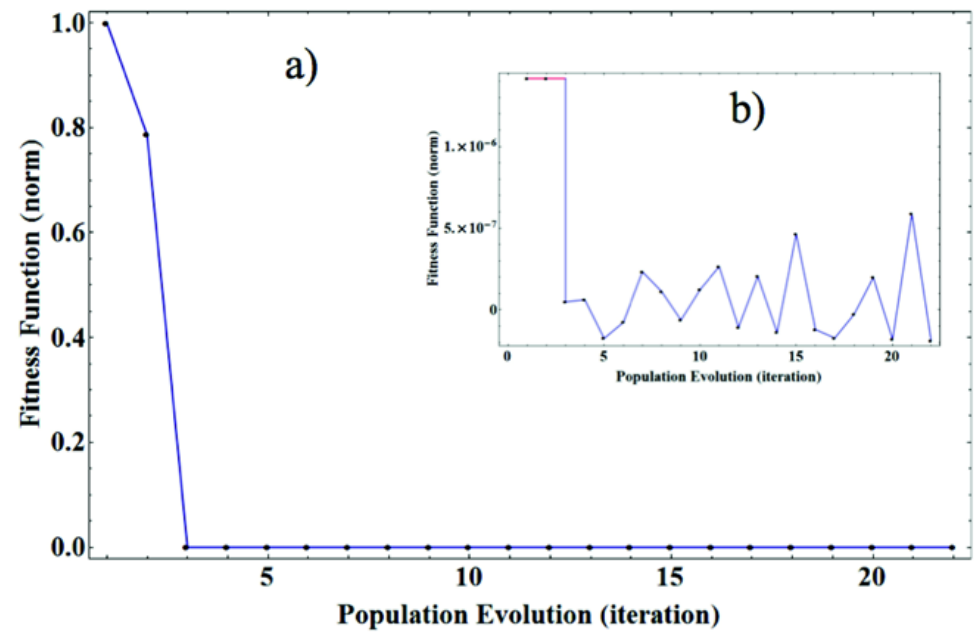
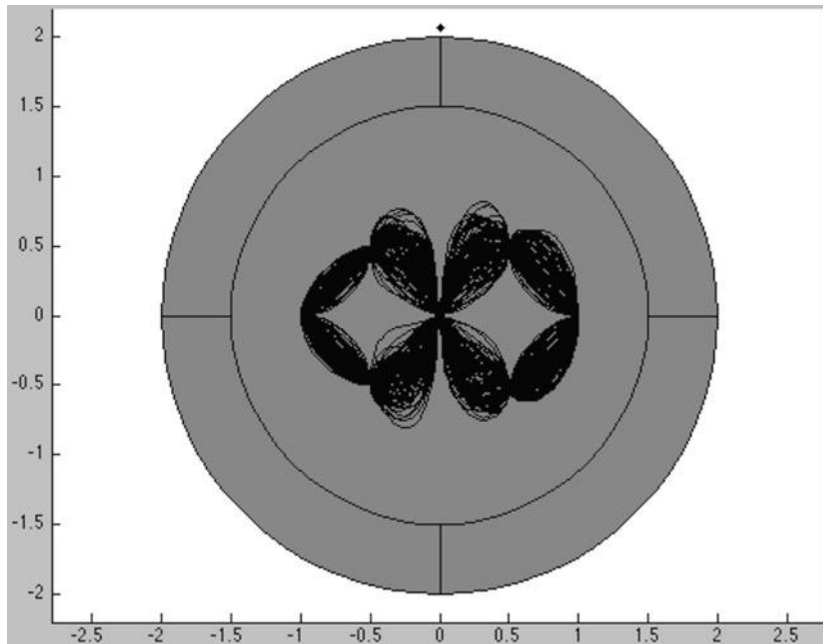
$$J_{tot} = SE$$

$$E_{tot} = \left(m_0 \int \left(J + e_0 \frac{\partial E}{\partial t} \right) \partial a \right)$$

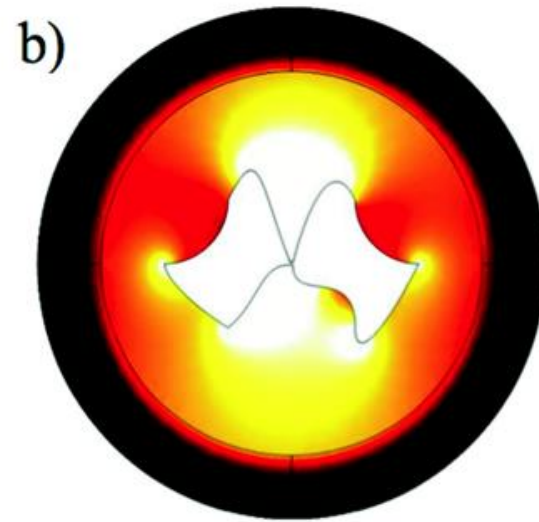
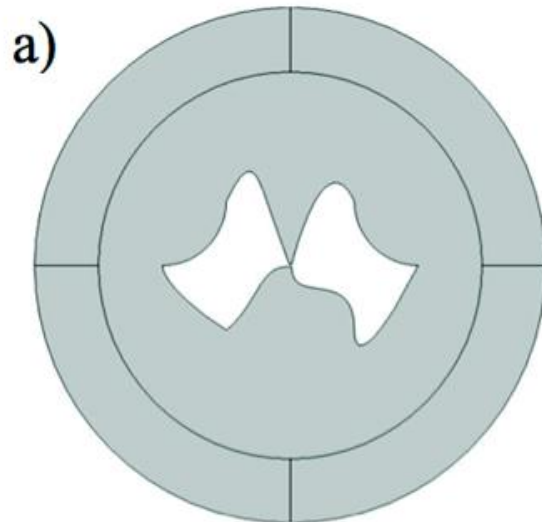
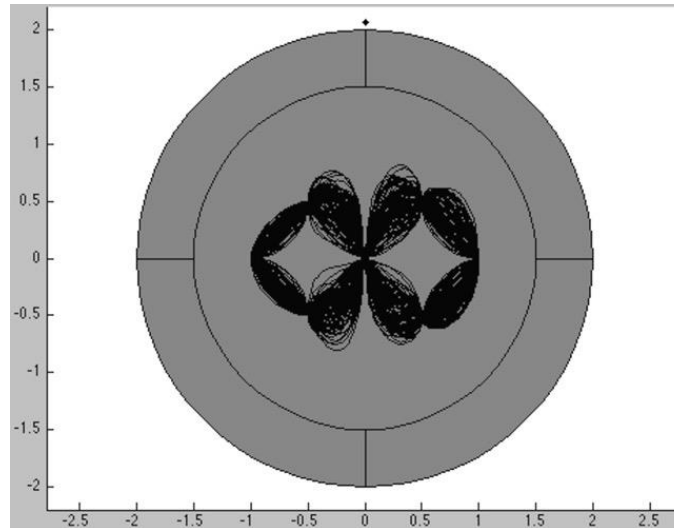
From Matlab to COMSOL (and vice versa)



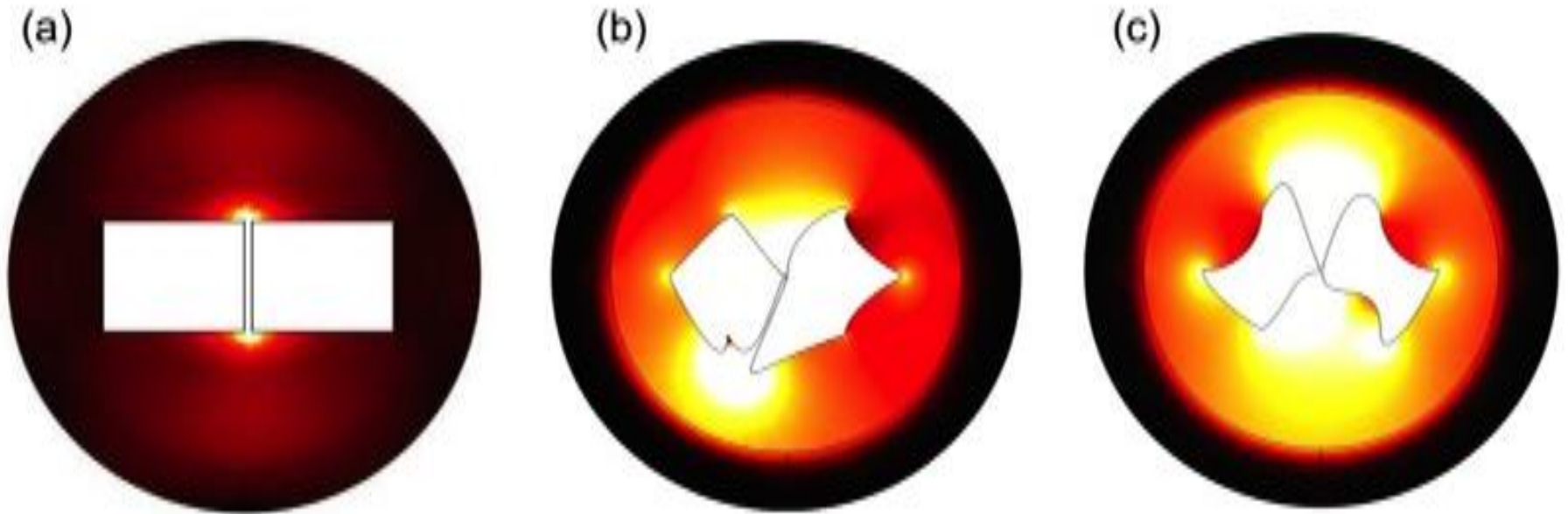
Results



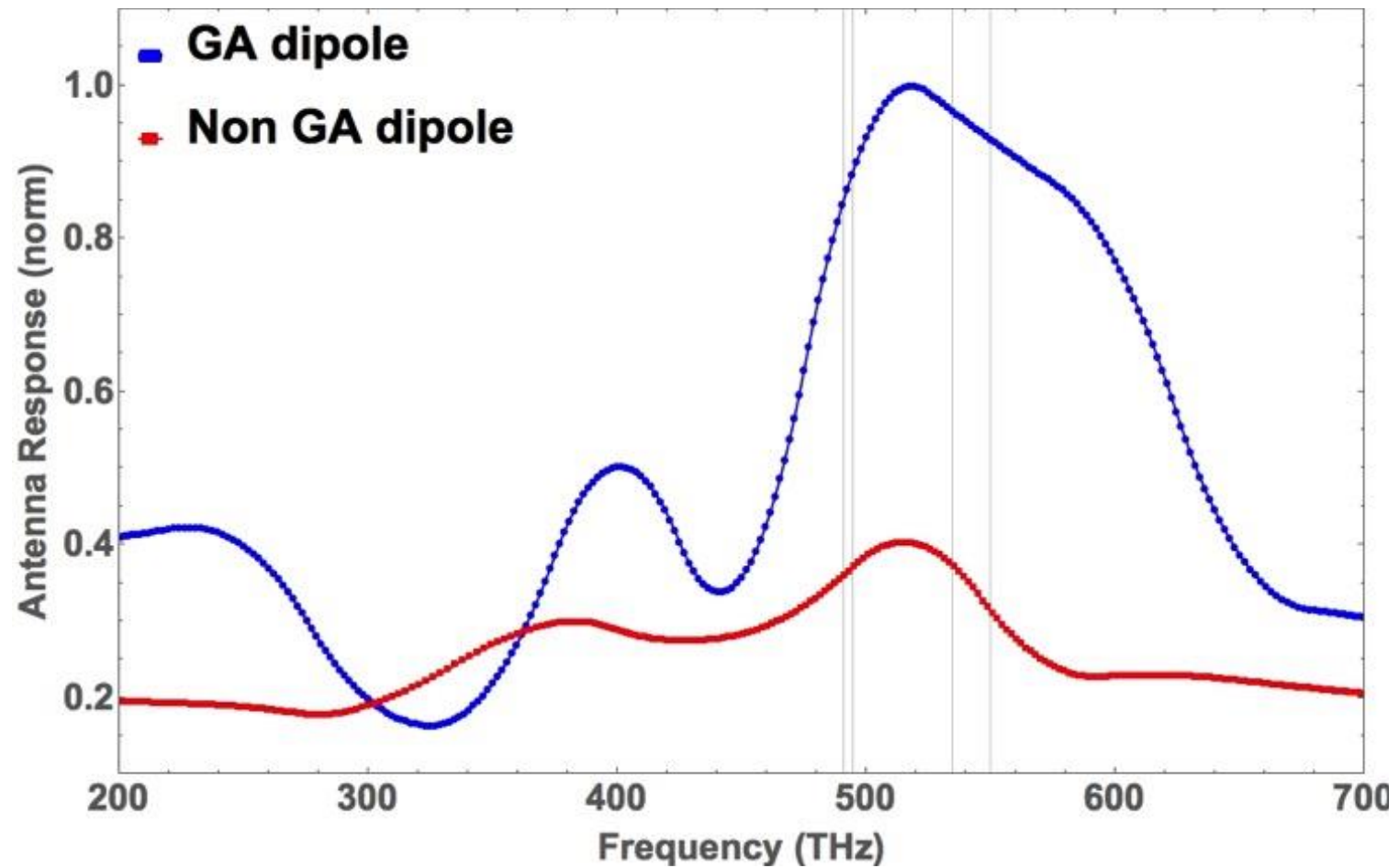
Results



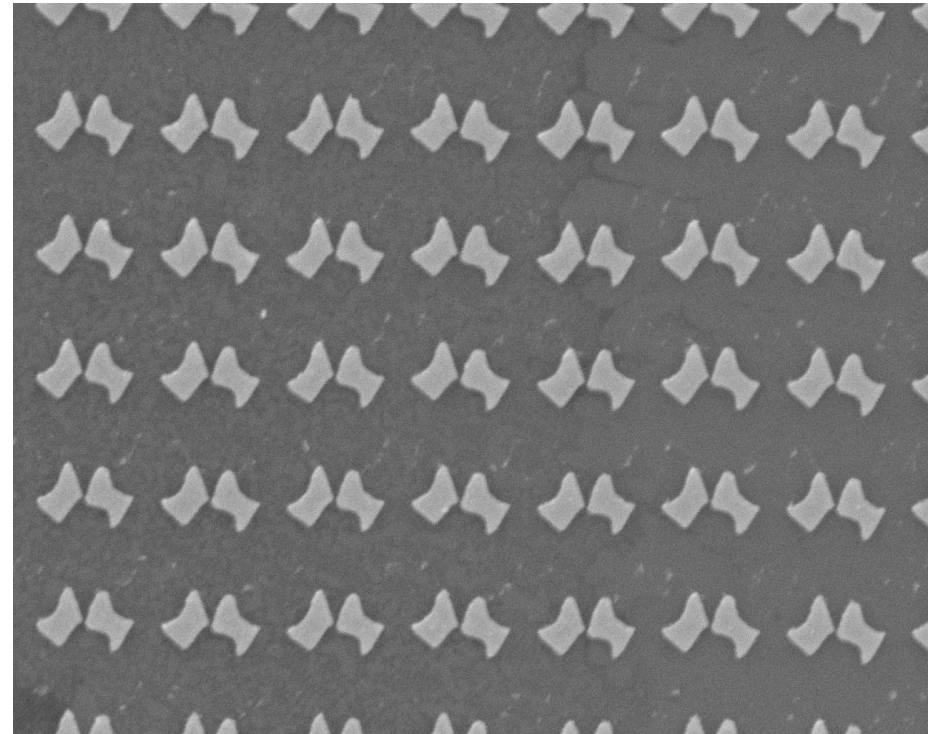
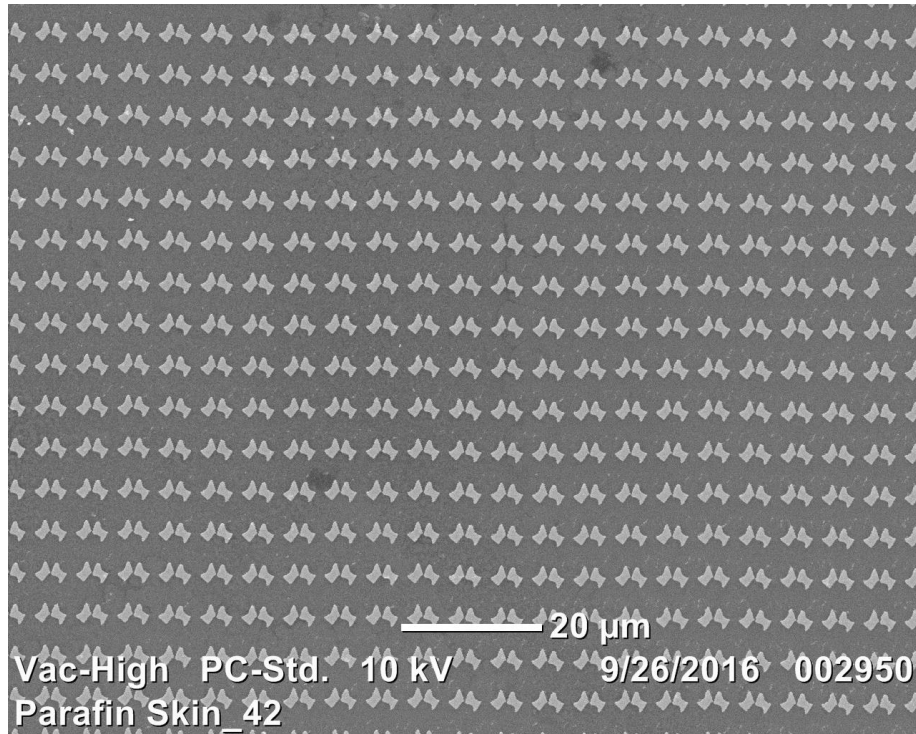
Conclusions



Conclusions



Work in progress



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Genetic Algorithm for Geometry
Optimization of Optical Antennas
(ramondz@hotmail.com)

