L11MOCONFCS

Cartesian Coordinates for rectangular mirrors in confocal resonator.
Field distribution as contour plot.

The mode numbers m and n are for Hermitian Polynomials.
The constant in the exponential is simulated by X.
Small X correspond to small "waist width".

$N := 40 \qquad i := 0..N \qquad j := 0..N$

$x_i := (-20) + 1.00 \cdot i \qquad y_j := -20 + 1.00 \cdot j$

$H0(x) := 1 \qquad H0(y) := 1 \qquad H1(x) := x \cdot \sqrt{\frac{2}{X}} \qquad H1(y) := y \cdot \sqrt{\frac{2}{Y}}$

$H2(x) := 4 \cdot \left(\sqrt{\frac{2}{X}} \cdot x\right)^2 - 2 \qquad H2(y) := 4 \cdot \left(\sqrt{\frac{2}{Y}} \cdot y\right)^2 - 2$

$H00(x,y) := H0(x) \cdot H0(y) \qquad H20(x,y) := H2(x) \cdot H0(y)$

$H01(x,y) := H0(x) \cdot H1(y) \qquad H02(x,y) := H0(x) \cdot H2(y)$

$H10(x,y) := H1(x) \cdot H0(y) \qquad H21(x,y) := H2(x) \cdot H1(y)$

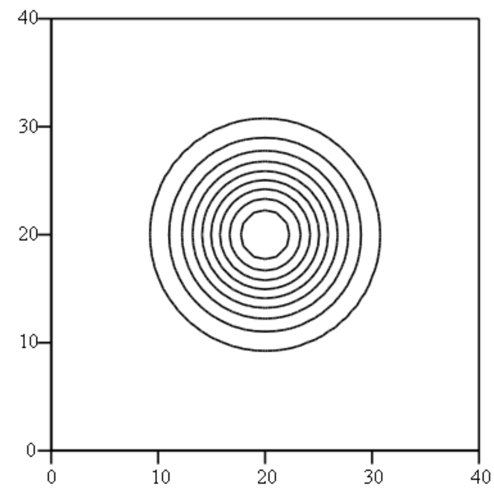
$H11(x,y) := H1(x) \cdot H1(y) \qquad H12(x,y) := H1(x) \cdot H2(y)$

$H22(x,y) := H2(x) \cdot H2(y)$

$R(x,y) := (x)^2 + ((y))^2$

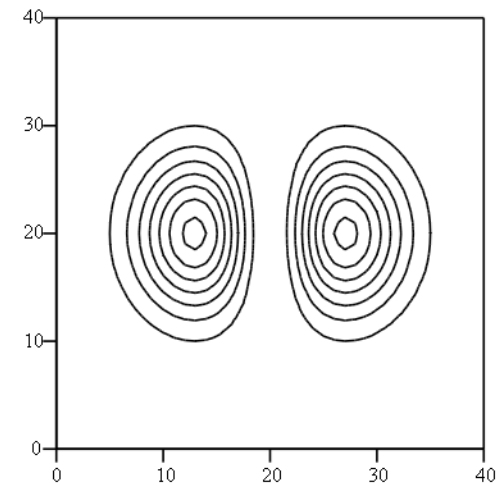
constant X $\quad X \equiv 100 \qquad Y \equiv 100 \qquad g(x,y) := \left(e^{\frac{-R(x,y)}{X}}\right)$

$$M00_{i,j} := \left(g\left(x_i, y_j\right) \cdot H00\left(x_i, y_j\right)\right)^2$$



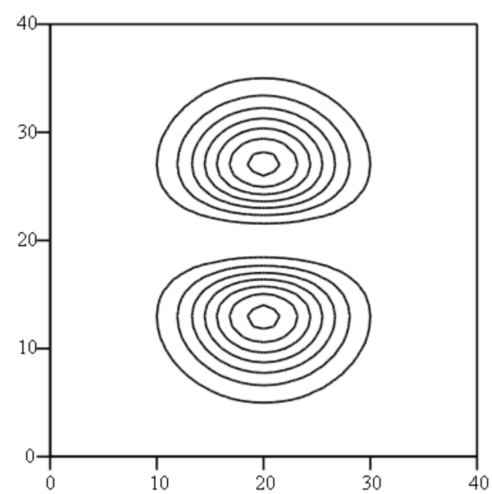
M00

$$M10_{i,j} := \left(g\left(x_i, y_j\right) \cdot H10\left(x_i, y_j\right)\right)^2$$



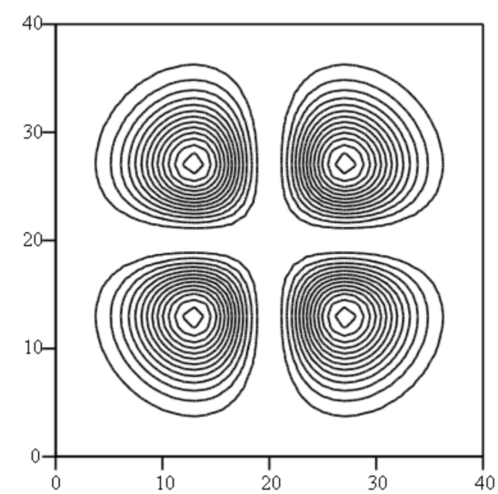
M10

$$M01_{i,j} := \left(g\left(x_i, y_j\right) \cdot H01\left(x_i, y_j\right)\right)^2$$



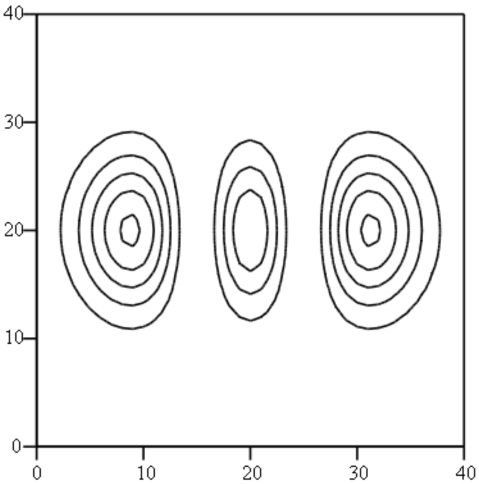
M01

$$M11_{i,j} := \left(g\left(x_i, y_j\right) \cdot H11\left(x_i, y_j\right)\right)^2$$



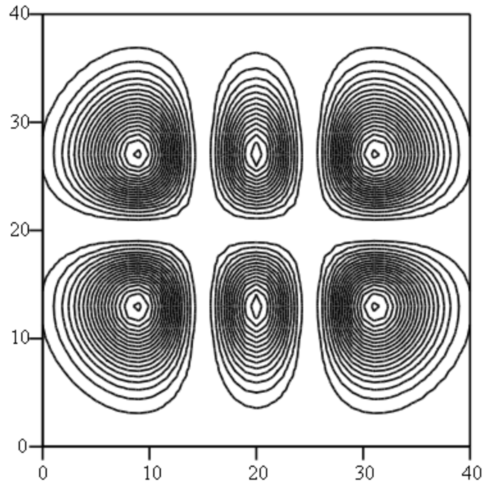
M11

$$M20_{i,j} := \left(g\left(x_i, y_j\right) \cdot H20\left(x_i, y_j\right)\right)^2$$



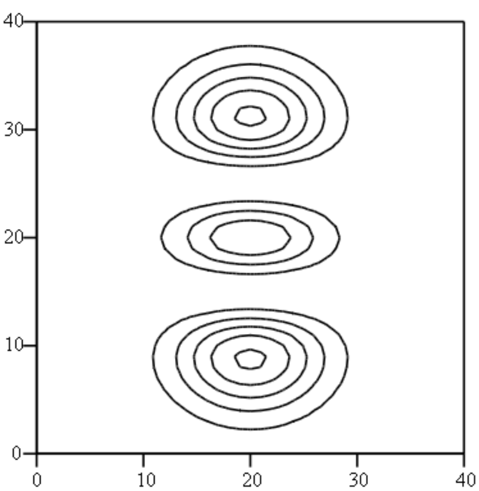
M20

$$M21_{i,j} := \left(g\left(x_i, y_j\right) \cdot H21\left(x_i, y_j\right)\right)^2$$



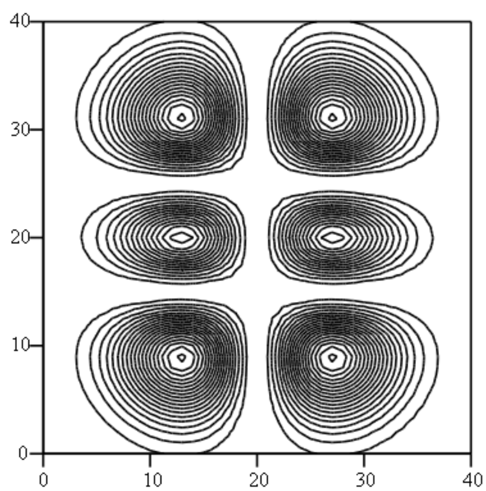
M21

$$M02_{i,j} := \left(g\left(x_i, y_j\right) \cdot H02\left(x_i, y_j\right)\right)^2$$



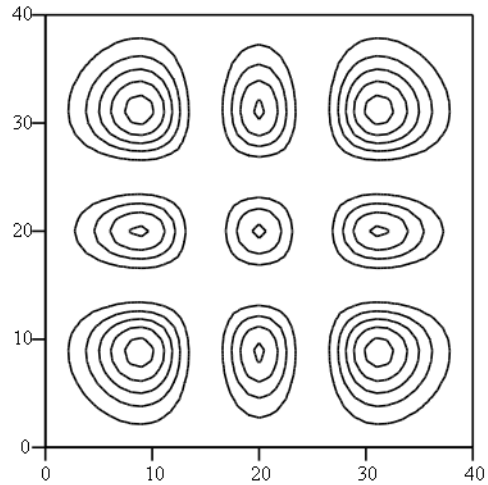
M02

$$M12_{i,j} := \left(g\left(x_i, y_j\right) \cdot H12\left(x_i, y_j\right)\right)^2$$



M12

$$M22_{i,j} := \left(g(x_i, y_j) \cdot H22(x_i, y_j)\right)^2$$



M22