

L12MOCY1to4S

Cylindrical Coordinates for circular mirrors in confocal resonator.

Field distribution as contour plot for graph 00, 10, 01, and 11.

The L(l,p) functions are written out for 00 to 22. The constant in the exponential is X

$$i := 0..N \quad j := 0..N \quad N \equiv 30 \quad x_i := (-3) + .20001 \cdot i \quad y_j := -3 + .20001 \cdot j$$

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

$$\beta(x,y) := \left(\operatorname{atan}\left(\frac{x}{y}\right) \right)$$

The L's are given below.

$$q(x,y) := \left[e^{\frac{-(R(x,y))}{X}} \right] \text{ constant X} \quad X \equiv 3$$

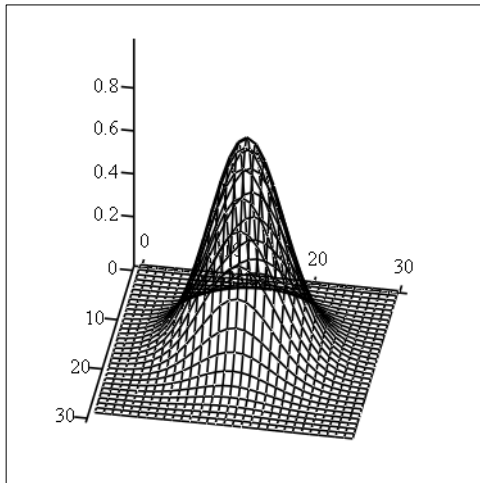
$$u(x,y) := 4 \cdot \frac{R(x,y)}{X}$$

$$g(x,y) := \cos(0 \cdot \beta(x,y))$$

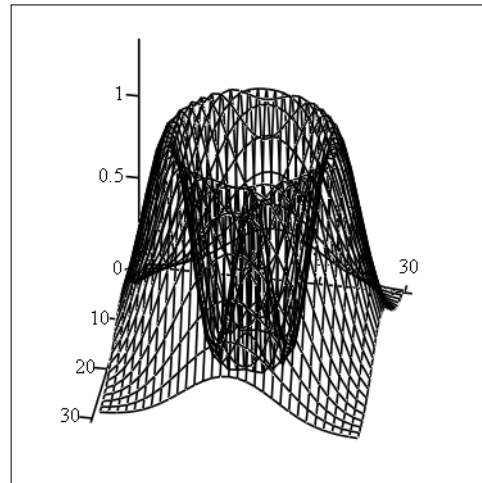
$$L00(x,y) := 1 \quad L01(x,y) := 1 - u(x,y) \quad L10(x,y) := 1 \quad L11(x,y) := 2 - u(x,y)$$

$$M00_{i,j} := (\cos(0 \cdot \beta(x_i, y_j)) \cdot q(x_i, y_j) \cdot L00(x_i, y_j))^2$$

$$M10_{i,j} := (\cos(0 \cdot \beta(x_i, y_j)) \cdot q(x_i, y_j) \cdot L01(x_i, y_j))^2$$

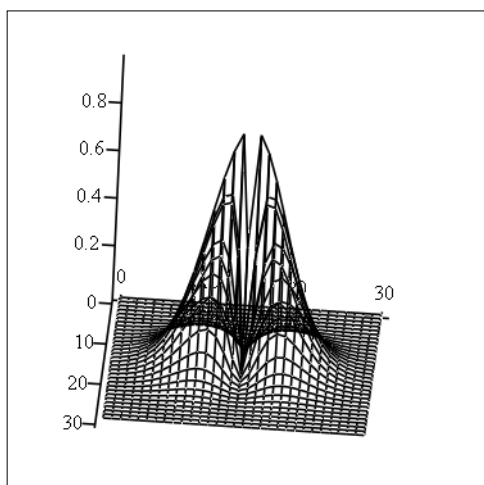


M00



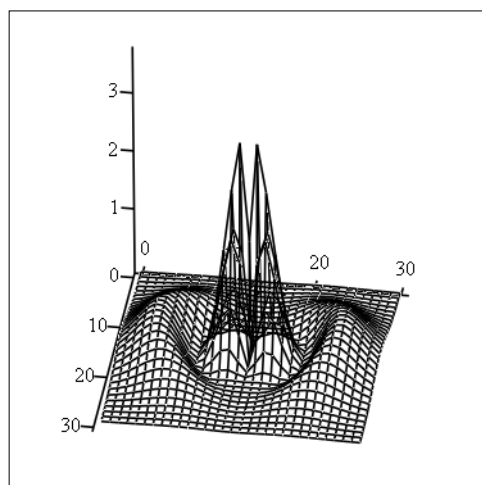
M10

$$M01_{i,j} := (\cos(1 \cdot \beta(x_i, y_j)) \cdot q(x_i, y_j) \cdot L10(x_i, y_j))^2$$



M01

$$M11_{i,j} := (\cos(1 \cdot \beta(x_i, y_j)) \cdot q(x_i, y_j) \cdot L11(x_i, y_j))^2$$



M11