EQUATION

$$2ik_0\frac{\partial A(x,y,z)}{\partial z} = \left[\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}\right]A(x,y,z) + \frac{2k_0^2}{n_0}n_2 I(x,y,z)A(x,y,z)$$

INITIAL CONDITION

$$A(x,y,0) = \left(1 + C\xi(x,y)\right)A_0\left(\frac{x^2}{x_0^2} + \frac{y^2}{y_0^2}\right)^{M/2}\exp\left\{-\frac{1}{2}\left(\frac{x^2}{x_0^2} + \frac{y^2}{y_0^2}\right)\right\}\exp\left\{im\varphi(x,y)\right\}$$

MEDIUM		
material	SiO_2	–
n_0	1.4409	–
n_2	3.40×10^{-16}	cm^2/W
k_0	5029.60	1/mm
k_1	4886.06	fs/mm
k_2	-62.98	fs^2/mm
BEAM		
distribution	vortex	–
M	1	–
m	1	–
x_0	100	μm
y_0	100	μm
λ	1800	nm
z_{diff}	5.0296	cm
P_0/P_V	5.00	–
P_0	198.41	MW
I_0	0.6255	TW/cm^2
R_{kerr}	74.68	–
C	0.01	–
σ^2	1.00	–
r_{corr}	100	μm
GRID		
x_{max}	2000	μm
y_{max}	2000	μm
n_x	2048	–
n_y	2048	–
h_x	1.00	μm
h_y	1.00	μm
TRACK		
n_z	3000	–
$h_z(z=0)$	10.00	μm
I_{stop}	4.00	TW/cm^2