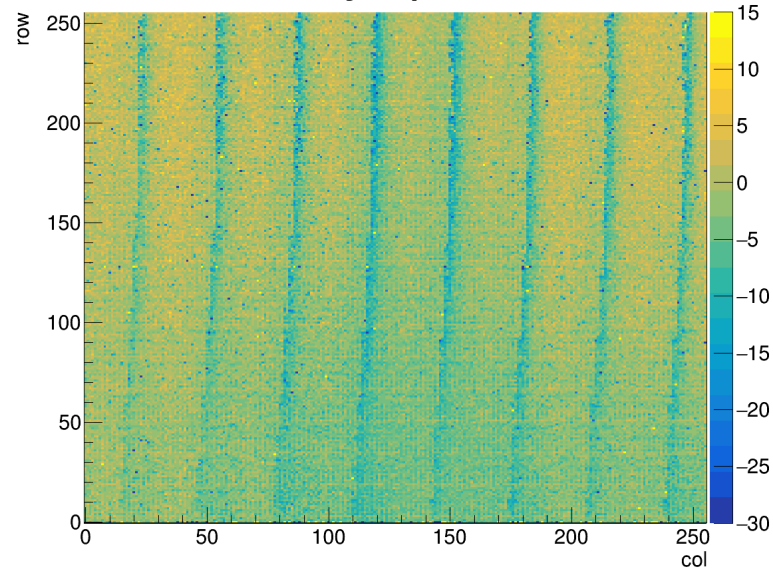
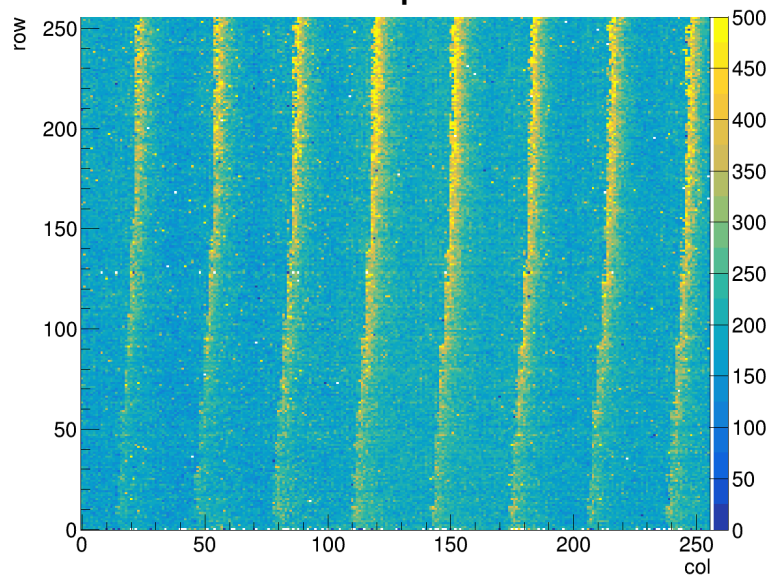


Timewalk with testpulses

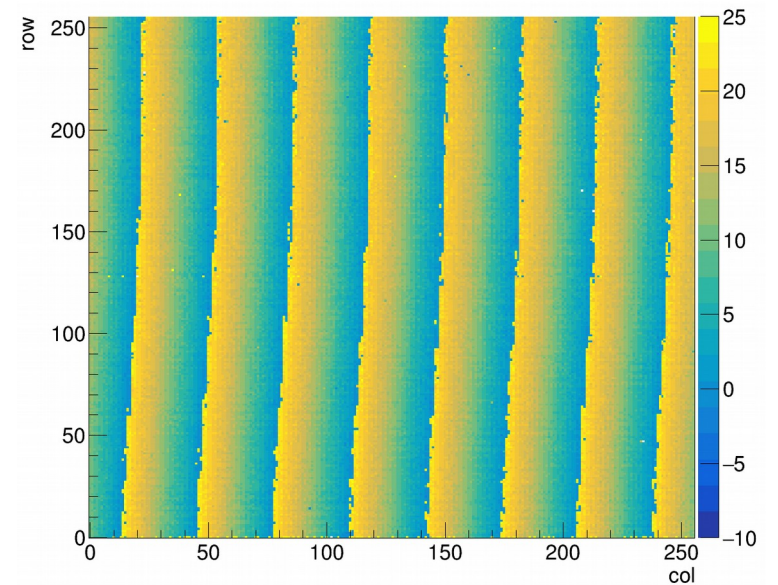
asymptote



slope



offset



Calculation of laser spot - 1

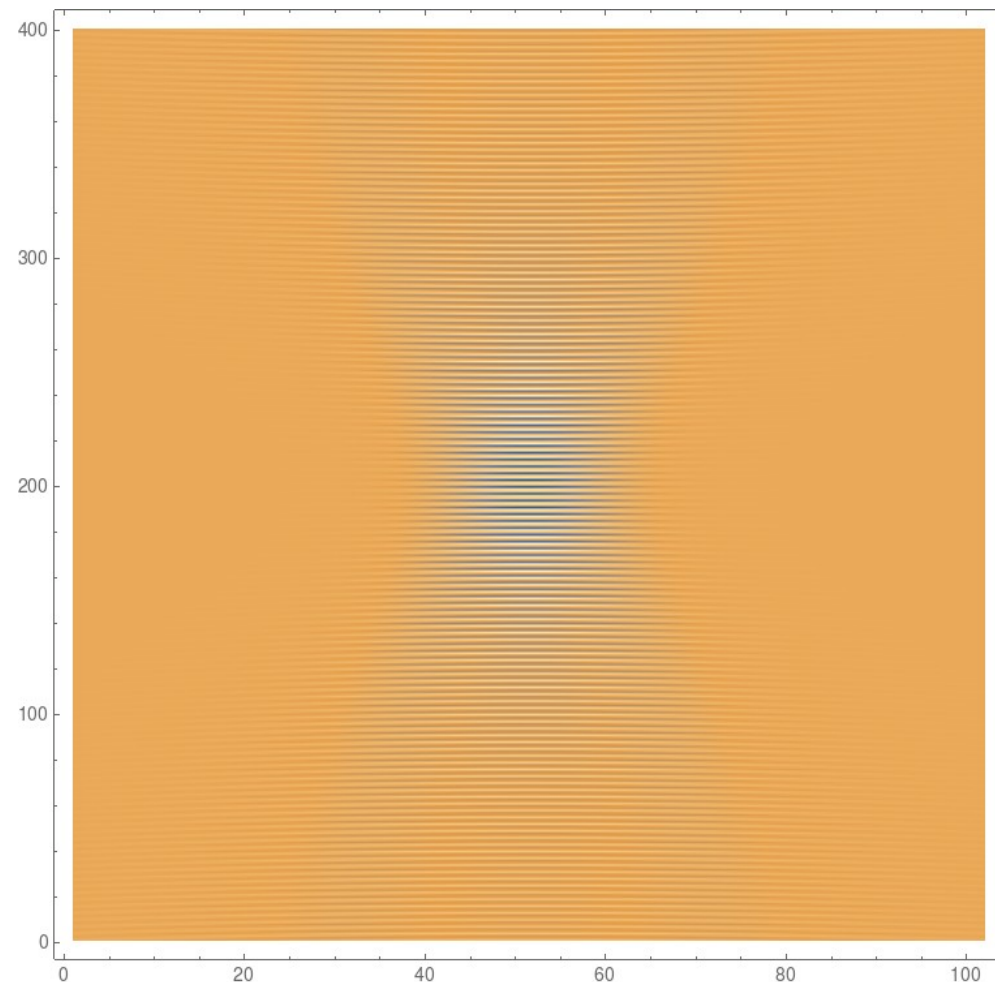
Assumptions:

- Gaussian beam profile
- Beam divergence is small
 - → use paraxial approximation
- beam waist = 20um

Wave propagation given by (rp-photonics):

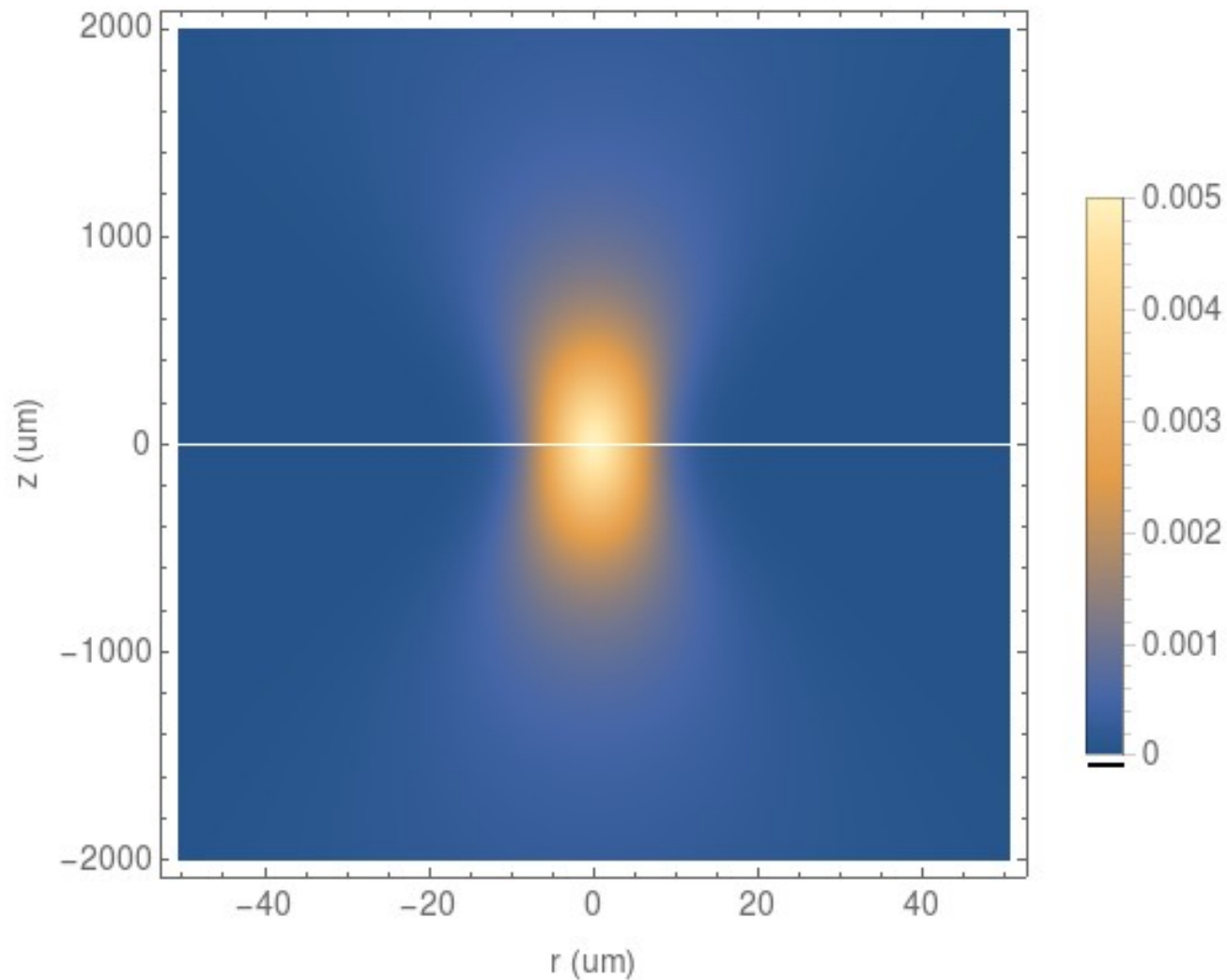
$$E(r, z) = E_0 \frac{w_0}{w(z)} \exp\left(-\frac{r^2}{w(z)^2}\right) \exp\left(i\left[kz - \arctan\frac{z}{z_R} + \frac{kr^2}{2R(z)}\right]\right)$$

Which in our case looks like ->



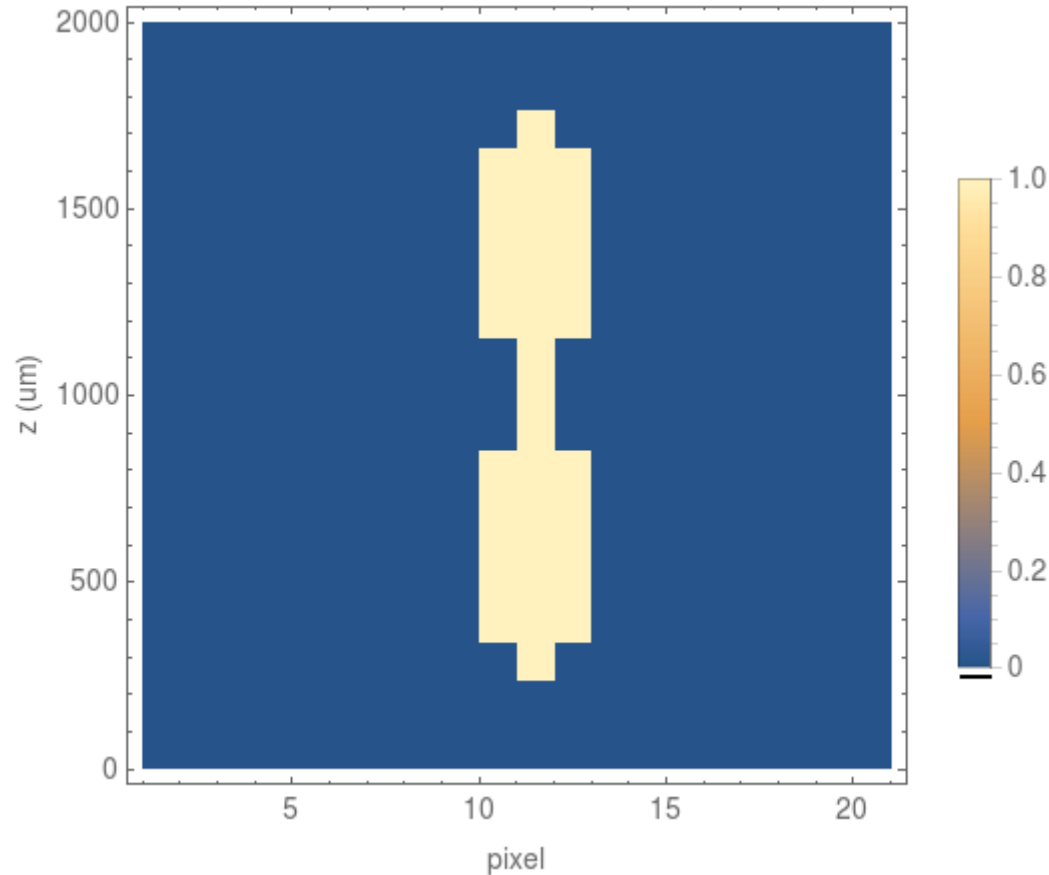
Calculation of laser spot - 2

Using this E-field, you can derive the intensity, however E_0 should be known...



Calculation of laser spot - 3

If you assume a minimum amount of charge is needed to fire a pixel, you can see which pixels should fire



Calculation of laser spot - 3

