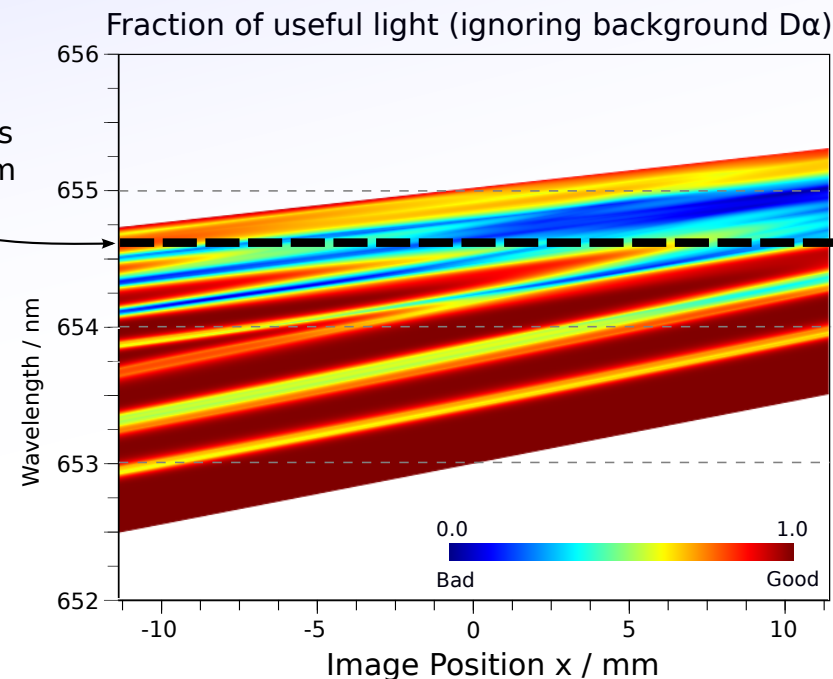
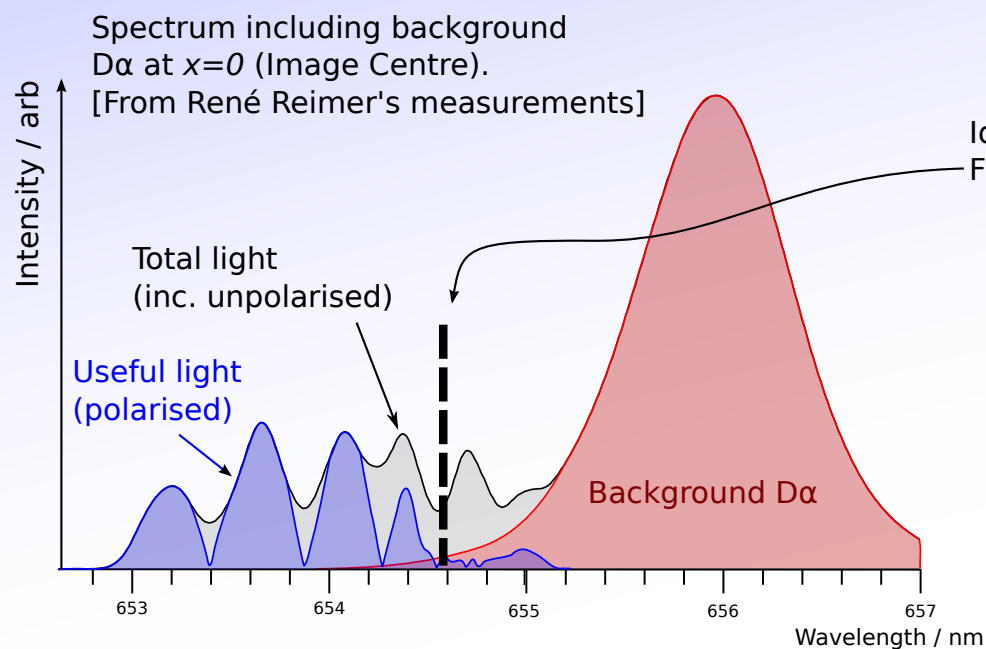
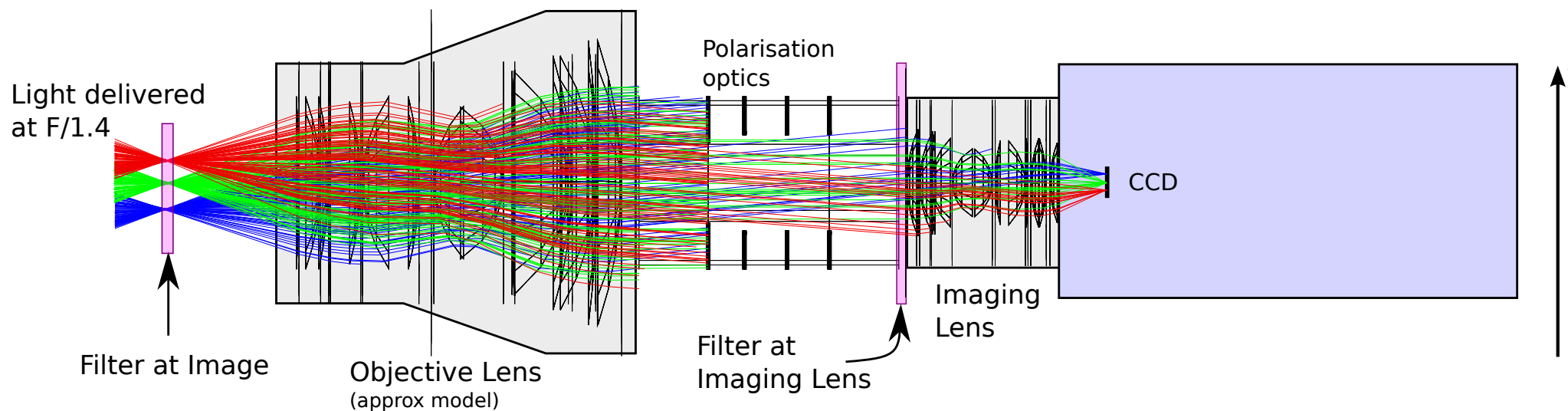


# IMSE Design - Spectrum and Filter

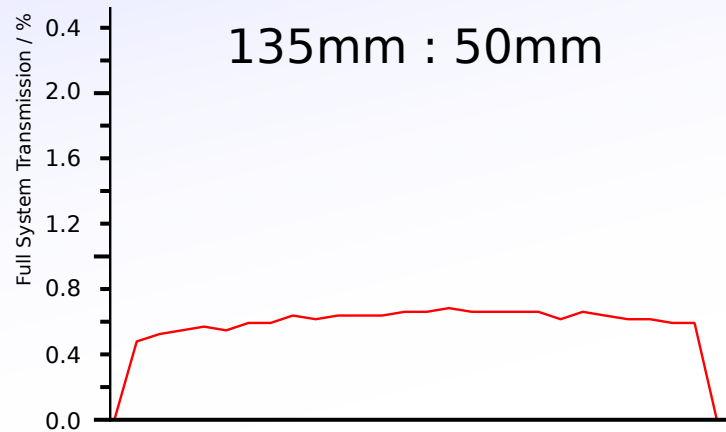


Filter can be placed at intermediate image plane (where fibres were),  
or on the front of the imaging lens (in the parallel rays):



# IMSE Design - Throughput and filter shift.

For the 135mm:50mm standard case, light throughput is only  $\sim 0.4\%$  of MSE emission to mirror.  
( $\sim 6\%$  of light delivered to intermediate image).



Some proportion of the light goes through the filter at a very steep angle and shifts the filter short-pass into the useful spectrum. The filter functions for different image positions calculated by the ray tracer are shown below. These assume a filter effective index of  $n = 2.0$  and an ideal sharp 655nm short-pass filter at normal incidence:

