

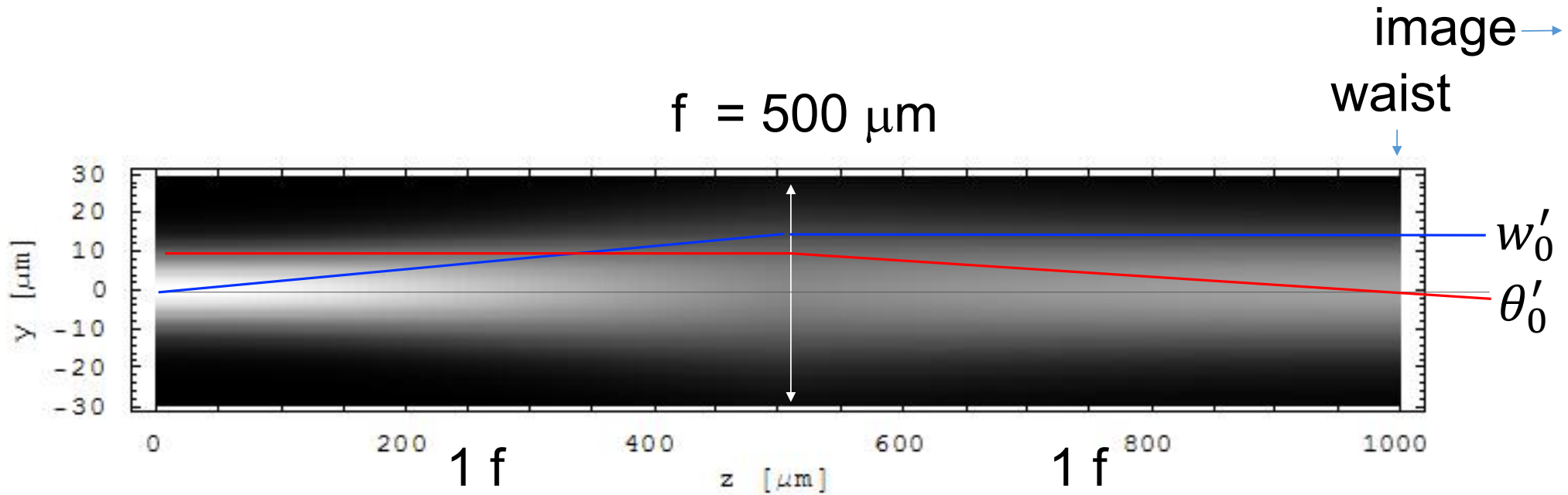
Module 1: Examples of ray tracing Gaussian beams

Course 2 of *Optical Engineering*: Optical efficiency and resolution

with **Dr. Robert R. McLeod and Dr. Amy C. Sullivan**



Example 1 – 1F:1F

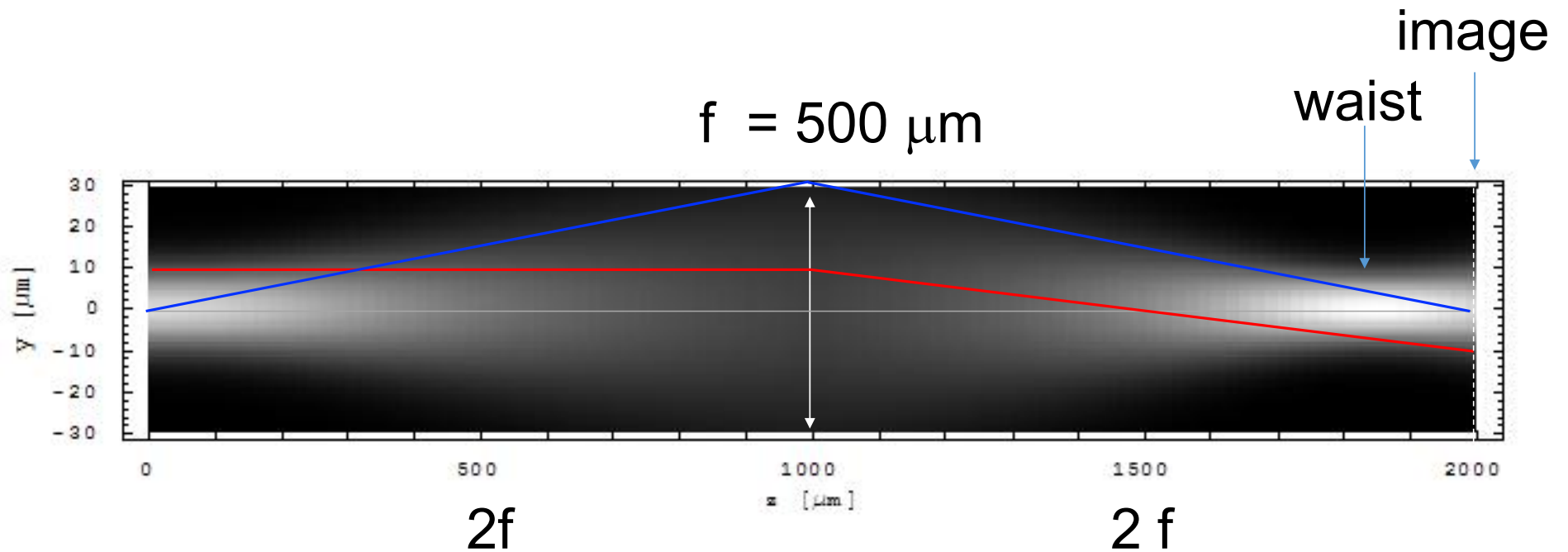


$$w'_0 = f \theta_0$$

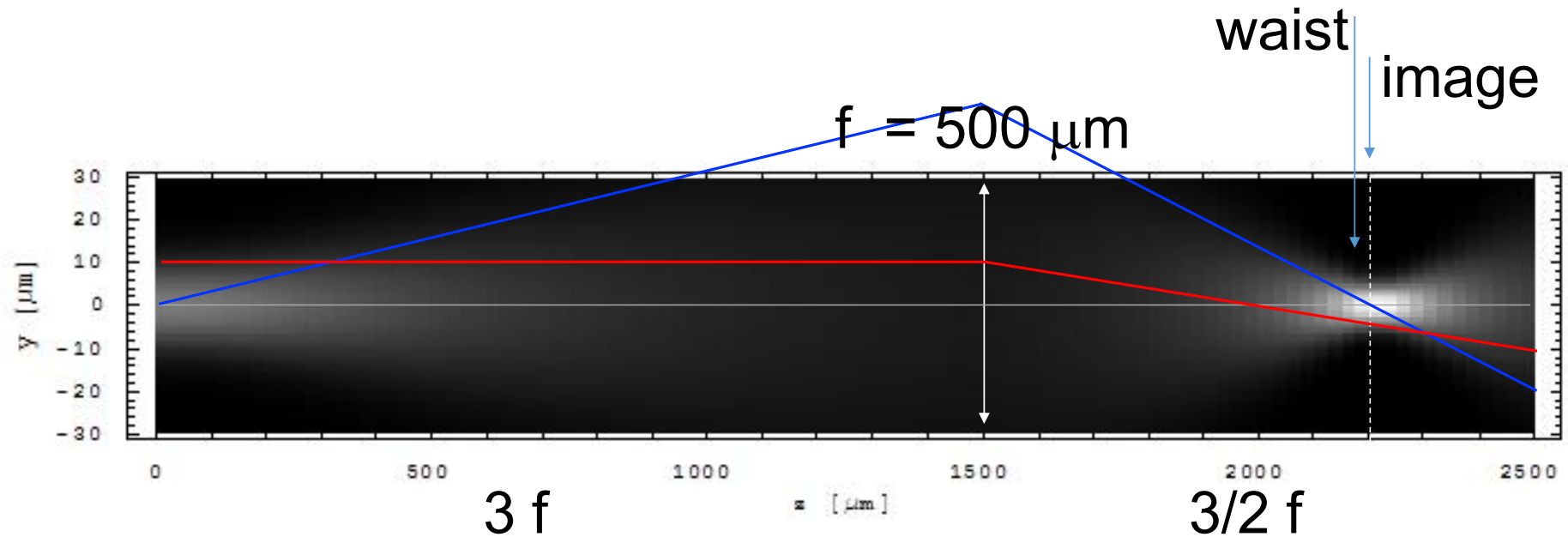
$$\theta'_0 = w_0 / f$$



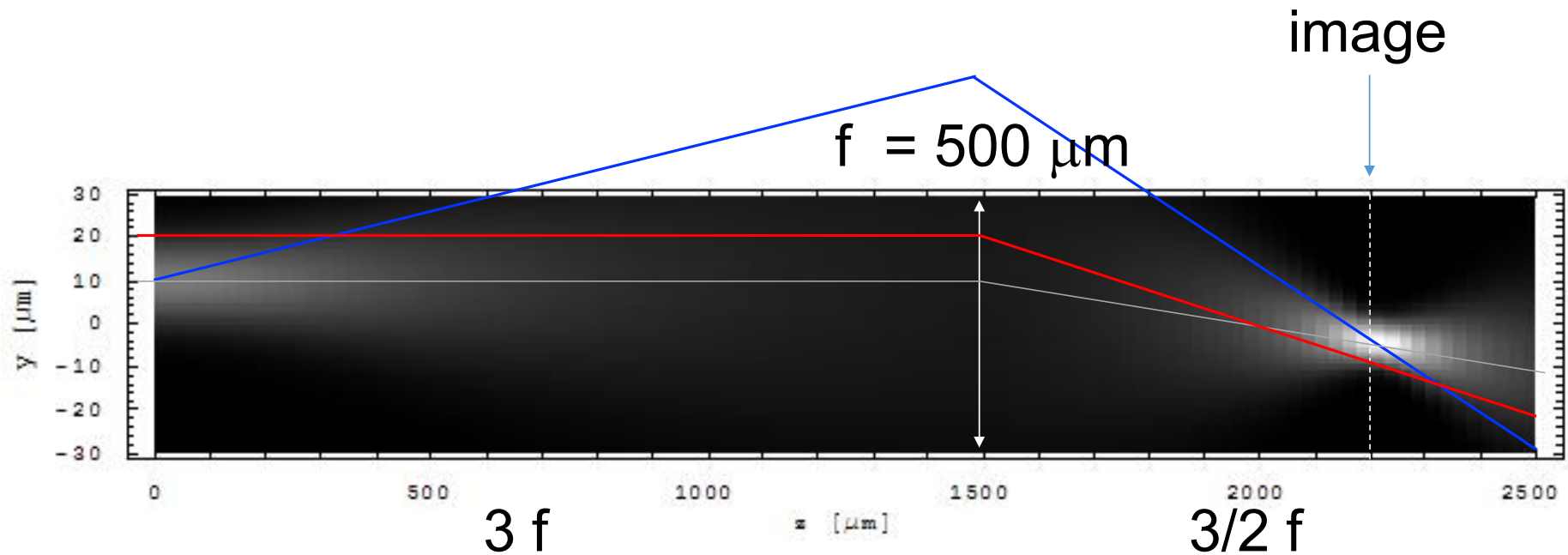
Example 2 – 2F:2F



Example 3 – 3F:1.5F



Example 4: 3F:1.5F off axis



To trace off axis Gaussian beams must add chief ray centered on beam axis and measure divergence and waist rays relative to the chief.