

ABSTRACT

SYSTEMS AND METHODS FOR IMPROVED FOCUS TRACKING USING A LIGHT SOURCE

CONFIGURATION

Provided herein is an imaging system including a light source; a first focusing lens positioned to focus a beam from the light source to a beam waist at a predetermined location along an optical path of the beam in the imaging system; a beam splitter positioned relative to the first focusing lens to receive the beam from the first focusing lens and to create first and second beams; a second focusing lens positioned to receive the first and second beams output by the beam splitter, to focus the received first and second beams to a spot sized dimensioned to fall within a sample to be image, and further positioned to receive first and second beams reflected from the sample; an image sensor positioned to receive the light beams reflected from the sample; and a roof prism positioned in the optical path between the second focusing lens and the image sensor.

[Figure 1]