SYSTEMS FOR *IN VIVO* IMAGING BIOLOGICAL PHENOMENA

ABSTRACT

According to embodiments of the present disclosure, a system for in vivo imaging biological phenomena is provided. The system may include an excitation module, configured to emit a light beam; an expansion module, configured to receive and adjust a width of the light beam; a Bessel-beam forming unit (BFU), configured to receive and convert the adjusted light beam by the expansion module into a Bessel beam; a beam splitter; and a microlens array. The beam splitter may be arranged between the BFU and an objective module, and configured to transmit the adjusted light beam to the objective module and receive a returned light beam from the objective module, and to transmit the returned light beam to the microlens array. The microlens array may be configured to receive the returned light beam from the beam splitter.

FIG. 1A