

What is claimed is:

1. A system comprising:
 - a focus optic configured to converge an electromagnetic radiation (EMR) beam to a focal region located along an optical axis;
 - a detector configured to detect a signal radiation emanating from a predetermined location along the optical axis;
 - a controller configured to adjust a parameter of the EMR beam based in part on the signal radiation detected by the detector; and
 - a window located a predetermined depth away from the focal region, between the focal region and the focus optic along the optical axis, wherein the window is configured to make contact with a surface of a tissue.
2. The system of claim 1, wherein the EMR beam is configured to generate a plasma at the predetermined location along the optical axis and wherein the signal radiation emanates from the plasma.
3. The system of claim 1, wherein the signal radiation emanates from an interaction between the EMR beam and the window.
4. The system of claim 1, wherein the focus optic is further configured to image the signal radiation detected by the detector.
5. The system of claim 1, further comprising a scanner configured to scan the focal region from a first region within the tissue to a second region within the tissue.
6. The system of claim 1, wherein the EMR beam is further configured to generate a thermionic plasma at the focal region.

7. The system of claim 1, wherein the window is further configured to transmit the EMR beam.
8. The system of claim 1, wherein the focus optic is further configured to converge the EMR beam at a numerical aperture (NA) of at least 0.3.
9. The system of claim 1, wherein the parameter of the EMR beam comprises at least one of: a pulse energy, a repetition rate, a pulse duration, a focal region location, a focal region size, a wavelength, or a power.
10. The system of claim 1, wherein the signal radiation comprises at least one of: a visible light, an infrared light, an acoustic signal, an ultrasonic signal, a radio signal, or a temperature.
11. A method comprising:
 - contacting, using a window, a surface of a tissue;
 - converging, using a focus optic, an electromagnetic radiation (EMR) beam to a focal region located along an optical axis;
 - detecting, using a detector, a signal radiation emanating from a location along the optical axis;
 - adjusting, using a controller, a parameter of the EMR beam based in part on the detected signal radiation; and
 - positioning the focal region within the tissue at a predetermined distance from the surface of the tissue.
12. The method of claim 11, further comprising generating, using the EMR beam, a plasma at the location along the optical axis, wherein the signal radiation emanates from the plasma.
13. The method of claim 11, further comprising directing the converging EMR beam incident upon the window, wherein the signal radiation emanates from an interaction between the EMR beam and the window.

14. The method of claim 11, further comprising imaging, using the focus optic, the signal radiation incident the detector.
15. The method of claim 11, further comprising scanning, using a scanner, the focal region from a first region within the tissue to a second region within the tissue.
16. The method of claim 11, further comprising generating, using the EMR beam, a thermionic plasma at the focal region.
17. The method of claim 11, further comprising transmitting the EMR beam through the window.
18. The method of claim 11, wherein the focus optic is further configured to converge the EMR beam at a numerical aperture (NA) of at least 0.3.
19. The method of claim 11, wherein the parameter of the EMR beam comprises at least one of: a pulse energy, a repetition rate, a pulse duration, a focal region location, a focal region size, a wavelength, or a power.
20. The method of claim 11, wherein the signal radiation comprises at least one of: a visible light, an infrared light, an acoustic signal, an ultrasonic signal, a radio signal, or a temperature.