Claims:

1. An optical apparatus, comprising:

a first rotatable wave plate having an optical axis;

a polarizing beam splitter with a reflecting axis and a transmitting axis, wherein the transmitting axis is substantially parallel to the optical axis of the first rotatable wave plate;

a first reflector positioned along the transmitting axis and propagating a first deflected electromagnetic radiation along a first deflection axis; and

a second reflector positioned to receive electromagnetic radiation originating from the first reflector and propagate a return electromagnetic radiation along the reflecting axis.

2. The optical apparatus of claim 1, further comprising a second rotatable wave plate having an optical axis substantially parallel to the reflecting axis of the polarizing beam splitter.

3. The optical apparatus of claim 1, further comprising a third reflector positioned along the first deflection axis and facing a second deflection axis, and the second reflector is positioned along the second deflection axis.

4. The optical apparatus of claim 2, further comprising a first actuator coupled to the first rotatable wave plate and a second actuator coupled to the second rotatable wave plate, and a controller coupled to the first actuator and the second actuator.

5. The optical apparatus of claim 2, further comprising a second polarizing beam splitter positioned along the first deflection axis, the second polarizing beam splitter having a second reflecting axis and a second transmitting axis, wherein the second reflector is positioned along the second reflecting axis.

6. The optical apparatus of claim 5, further comprising a third wave plate positioned between the first reflector and the second polarizing beam splitter, a plurality of reflectors to receive a transmitted electromagnetic radiation along the second transmitting axis and direct the transmitted electromagnetic radiation along a circuit, and a fourth wave plate positioned in the circuit to receive the transmitted

electromagnetic radiation and propagate a second return electromagnetic radiation along the second reflecting axis.

7. A system for processing a substrate comprising:
a source of electromagnetic energy;
an optical system for focusing the electromagnetic energy; and
a pulse width controller optically coupled to the source of electromagnetic energy and the optical system, the pulse width controller comprising two or more rotatable wave plates.

8. The system of claim 7, wherein the two or more rotatable wave plates comprise a first wave plate and a second wave plate, and wherein a polarizing beam splitter is positioned on an optical axis from the first wave plate to the second wave plate.

9. The system of claim 8, wherein the second wave plate is disposed in an optical circuit oriented to receive electromagnetic radiation from the polarizing beam splitter and propagate electromagnetic radiation to the polarizing beam splitter.

10. The system of claim 9, wherein the source of electromagnetic energy comprises two or more lasers.

11. The system of claim 10, wherein the pulse width controller further comprises a first actuator coupled to the first rotatable wave plate and a second actuator coupled to the second rotatable wave plate, and the system further comprises a controller coupled to the first actuator and the second actuator.

12. The system of claim 11, further comprising a second polarizing beam splitter disposed in the optical circuit .

13. The system of claim 9, wherein the first wave plate is disposed to deliver polarized radiation to the polarizing beam splitter.

14. A system for processing a substrate, comprising:
a first rotatable wave plate; and

an optical circuit comprising a plurality of reflectors, a second rotatable wave plate, and a polarizing beam splitter, wherein the second rotatable wave plate is positioned to transmit electromagnetic radiation to the polarizing beam splitter, and the polarizing beam splitter is positioned to direct a first portion of light incident on the polarizing beam splitter out of the optical circuit and a second portion of the light incident on the polarizing beam splitter to a reflector in the optical circuit.

15. The system of claim 14, wherein the polarizing beam splitter receives electromagnetic radiation from the first rotatable wave plate.

Claims:

1. A system for processing a substrate, comprising:

a first rotatable wave plate; and

an optical circuit comprising a plurality of reflectors, a second rotatable wave plate, and a polarizing beam splitter, wherein the second rotatable wave plate is positioned to transmit electromagnetic radiation to the polarizing beam splitter, and the polarizing beam splitter is positioned to direct a first portion of light incident on the polarizing beam splitter out of the optical circuit and a second portion of the light incident on the polarizing beam splitter to a reflector in the optical circuit, wherein the polarizing beam splitter receives electromagnetic radiation from the first rotatable wave plate.