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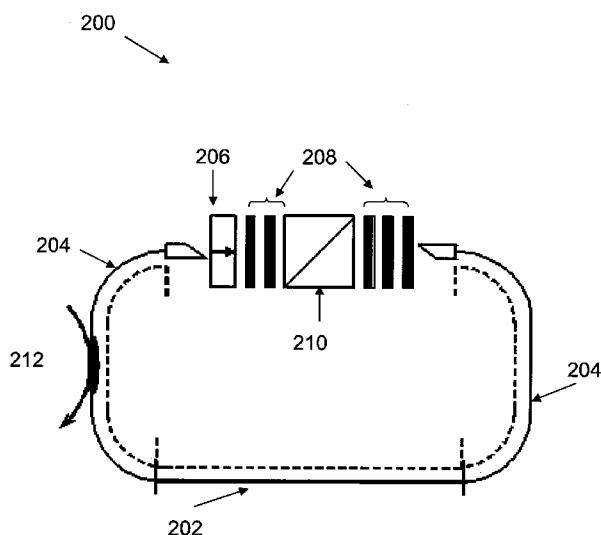
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(54) Title: LASER ARRANGEMENT WITH NONLINEAR PULSE COMPRESSION FIBER



(57) Abstract: A gain-guided soliton, generated by nonlinear amplification in a positive group velocity dispersion fiber (202), is propagated through a negative group velocity dispersion fiber (204) for nonlinear compression, in a laser cavity round trip, to obtain high power laser pulses. The fibers (202, 204) are in a ring laser configuration, with their relative lengths chosen such that the laser cavity has a net positive dispersion. An output coupler (212) is positioned at a predetermined distance from the gain fiber (202), such that the pulse width in the laser cavity is narrower than a predefined value. The output coupling strength may be, for example, in the range 30% to 70% of intracavity pulse energy, and pulses having width 47 fs and energy 2 nJ may be generated.

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