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Pulsed coil: state of the art and future

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The pulsed COIL seems to be attractive in processing application when a high power is necessary. The different approaches to make a pulse COIL operation are analysed. The method using the instant volumetric iodine atoms generation is considered in details. This method allows user to control the pulse duration, instant power, small signal gain over a wide range and exclude the water vapor trap from the laser construction. Such an approach can be used to create a large dimension active medium for efficient high energy iodine amplifier. Free running operation of such a laser combined with a second harmonic generation can be used as a source to pump solid-state laser. This approach can be alternative to diode laser pumping.