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NON -DESTRUCTIVE COILS AND FIELD SHAPERS FOR HIGH MAGNETIC FIELDS INDUSTRIAL APPLICATION, Yuri Livshitz, Amit Izar, PULSAR Ltd ISRAEL

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Abstracts

High magnetic field pulse, despite its proven advantages, has still not been widely adopted in industrial applications—mainly because of the critical parameter of work-coil's service life.

PULSAR's R&D works aimed to create suitable work-coils (Solenoids) for industrial use are reported here. The material and geometry considerations are addressed.

I-turn coils with or without power-pulse transformers were designed, manufactured and tested at a wide range of both dimensions and work regimens, including water cooling and air cooling system. A contact system for the coil at peak current about 1MA has been developed and tested too. Magnetic field distribution has been checked as well and the one-turn water cooled solenoid tested to 50000 pulses lifetime at 25 Tesla and 4 pulse /minute

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