

## **Laboratory produced relativistic electron-positron jets**

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Electron-positron jets with MeV temperature are thought to be present in a wide variety of astrophysical phenomena such as active galaxies, quasars, gamma ray bursts and black holes. They are now created in the laboratory in a controlled fashion by irradiating a gold target with an intense picosecond duration laser pulse. We have demonstrated that jets of  $\sim 10^{11}$  positrons can be created with narrow ( $\sim 20$  degree) angular divergence and quasi-monoenergetic, tunable energy distributions. This laboratory created "table-top" positron beam offers a new plasma source as well as provides a tool to study some of the most energetic events in the universe at close range.

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