



seit 1558

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Jena, den 28. November 2012

Dear Professor Mourou

this letter is to express our enthusiasm to join the International Zetta-Exawatt center IZEST, which was created a year ago (Nov29th 2011) under the initiative of the ECOLE POLYTECHNIQUE and the COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES.

The Institute of Optics and Quantum Electronics (IOQ) of Friedrich Schiller University Jena is particularly interested in collaborating in those aspects of IZEST that are targeted at the scientific and technical coordination among members of the international scientific community eager to discover new paradigms underpinned by extreme high-intensity lasers. Examples are:

- prompt acceleration
- high-energy fundamental physics, physics beyond the Standard Model
- vacuum structure
- dark matter search
- TeV astrophysics and to the development of very high intensity lasers.
- societal application like proton therapy.

We also applaud IZEST's activities towards the definition of laser architectures and a road map towards Zetta-Exawatt laser systems, although, as a small university institute, we don't feel that we can make major contributions in that direction.

IOQ has the longest tradition in short-pulse laser technology of any laboratory in Germany. Since the mid-1990s, IOQ is one of the leading institutes in relativistic optics in Germany. Today, there are groups working on electron and ion acceleration, X-ray generation, attosecond laser physics, and strong-field QED. In addition, there is unique expertise in X-ray optics. The institute is home of the POLARIS laser facility, the world's first all-diode pumped PW-class femtosecond laser system.

Sincerely

Prof. Dr. Gerhard G. Paulus