

Scientific Opportunities with an Ultrabright, Pulsed SASE Source

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The main characteristics of a pulsed SASE source are the brilliance, ten order of magnitude higher than 3rd generation synchrotron radiation sources, the complete transverse coherence, and the pulse time structure, with a pulse width of the order of 100 fs. Experiments on these sources must be tailored to exploit the mentioned extraordinary characteristics, and the science developed on these facilities will be complementary with respect to the one performed on the existing SR laboratories.

Some possible applications will be presented for Atomic and Molecular Physics, Cluster Physics, Chemistry, Solid State Physics, Plasma physics and Structural Biology.