Dynamic Compression Science on the Ultimate Storage Ring?

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The advent of angle-dispersive diffraction techniques in the early 1990's was perfectly timed with regards to the start-up of modern third generation storage rings in Europe, the US and Japan. As a result, over the last two decades, structural studies of a great number of materials have been pushed up to pressures close to 400 GPa, and a great deal of new science revealed.

More recently, the start-up of fourth generation light sources, such as the LCLS in the US, has seen researchers move towards dynamic compression diffraction experiments, by coupling the ultra-short (100 fs) x-ray pulses from such machines with compression via long (nanosecond) and short (picosecond) pulse lasers.

But might such experiments also be conducted on a storage ring source? In this talk I will look at the possibility of conducting dynamic compression experiments on the ultimate synchrotron, and the synergies that will exist with similar experiments conducted on free electron lasers.