

First crystallography experiments at the European XFEL

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The European XFEL (XFEL.eu) started operation in 2017. Initially only one undulator was used serving two experimental stations fs pulses with the same energy of around 9.3keV with up to 1mJ per pulse. XFEL.eu runs in a pulsed mode, with trains of X-ray bunches repeating at 10Hz. Initially the trains contained 15 pulses, but soon operation at 30 pulses became available, while at the final state up to 2700 pulses at 10Hz could become available. The source was characterized to exhibit high spatial coherence and performance and stability is constantly improving. After first commissioning focus sizes down to 12 um beam diameter became available using Be compound reflective lenses. With mirrors installed in 2018 the focus should be greatly improved to a few um size and eventually a 150nm focus size should become available. I will report on diffraction experiments already possible at the bigger focus size and point out the future capabilities for dynamic experiments down to fs time resolution.