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Frequency Pulling in a Superradiant FEL Amplifier

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Free-electron lasers producing ultrashort pulses with high peak power are a resource to extend ultrafast nonlinear spectroscopic techniques into the extreme-ultraviolet–X-ray regime. A super radiant cascade was proposed as a method to shorten the pulse duration in seeded FEL. Pulses shorter than the typical duration supported by the FEL gain bandwidth of the FEL amplifier in the linear regime were measured at FERMI. In these conditions we also observed a strong frequency pulling phenomenon that will be discussed in this contribution.

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Yes

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