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Demonstration of a reliable, high gain laser plasma accelerator driven free electron laser

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Compact free electron laser (FEL) technology enabled by plasma-based accelerators is rapidly maturing with several milestone demonstrations in the last several years. Still, critical work is needed to bridge the gap from proof of concept experiments to reliable operation of laser plasma accelerator (LPA) driven FELs. At the BELLA Center, we have Hundred Terawatt Undulator beamline equipped with an electron beam transport section that culminates in a 4m long, strong focusing undulator. Recent efforts have produced reliable operation of a high gain FEL.

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Working group

invited speaker

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