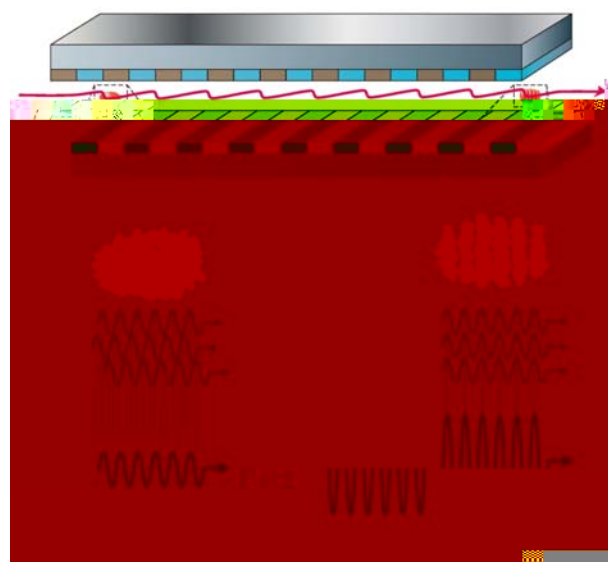


赵振堂 王 东 何建华

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Free Electron Laser
 FEL
 1976
 Madey
 FEL
 80
 Spontaneous Emission
 1



1 FEL B. W. J. McNeil and Neil R. Thompson, Nature photonics, 4, 814-821(2010)

SASE

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SASE

1996 UCLA University of California, Los
 Angeles SASE

FEL

FEL

2000

LEUTL SASE-
 FEL 385nm DESY TTF-FEL

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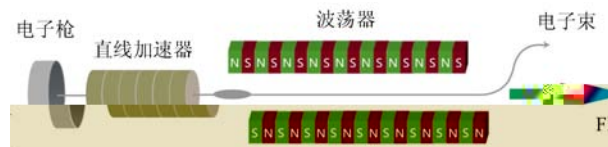
100 nm SASE

2006 3 DESY TTF-

SASE

FLASH 13.1 nm SASE FLASH

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