

Panel Discussion: Comments on Optics and Lasers for Gamma-Gamma Colliders

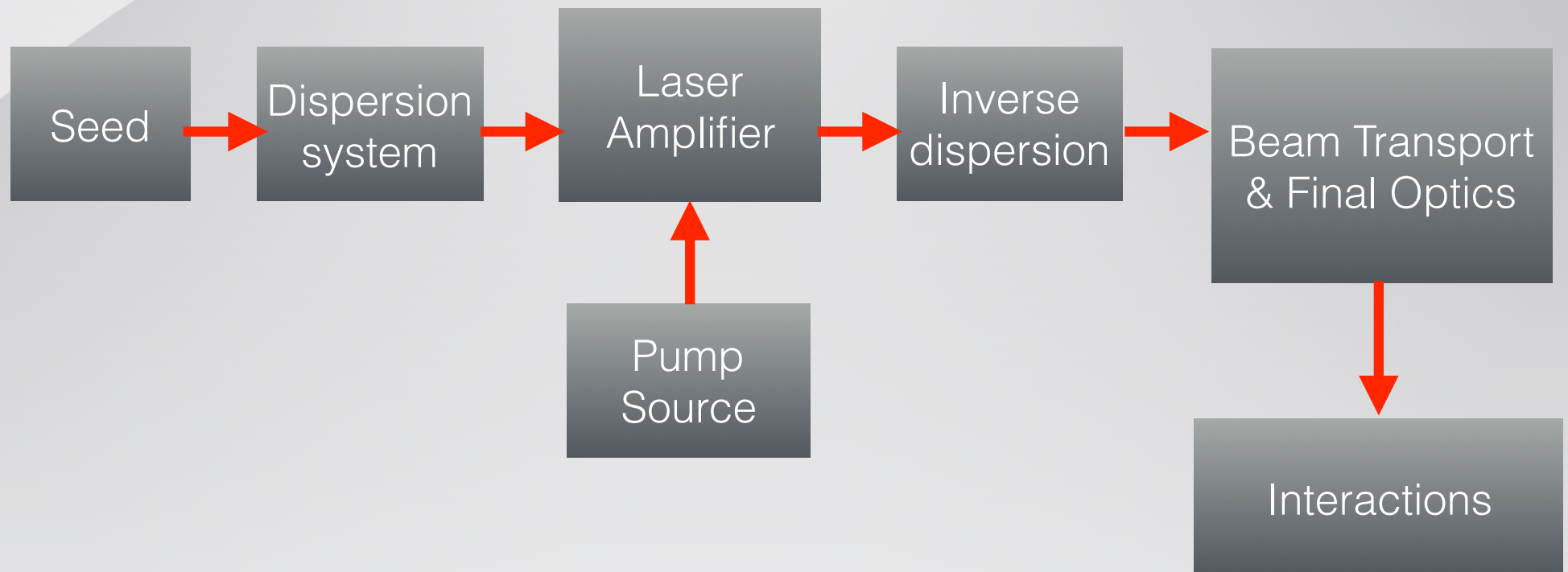
ICFA Workshop on Gamma-Gamma Colliders
Beijing

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Chair - International Committee on Ultrahigh Intensity Lasers

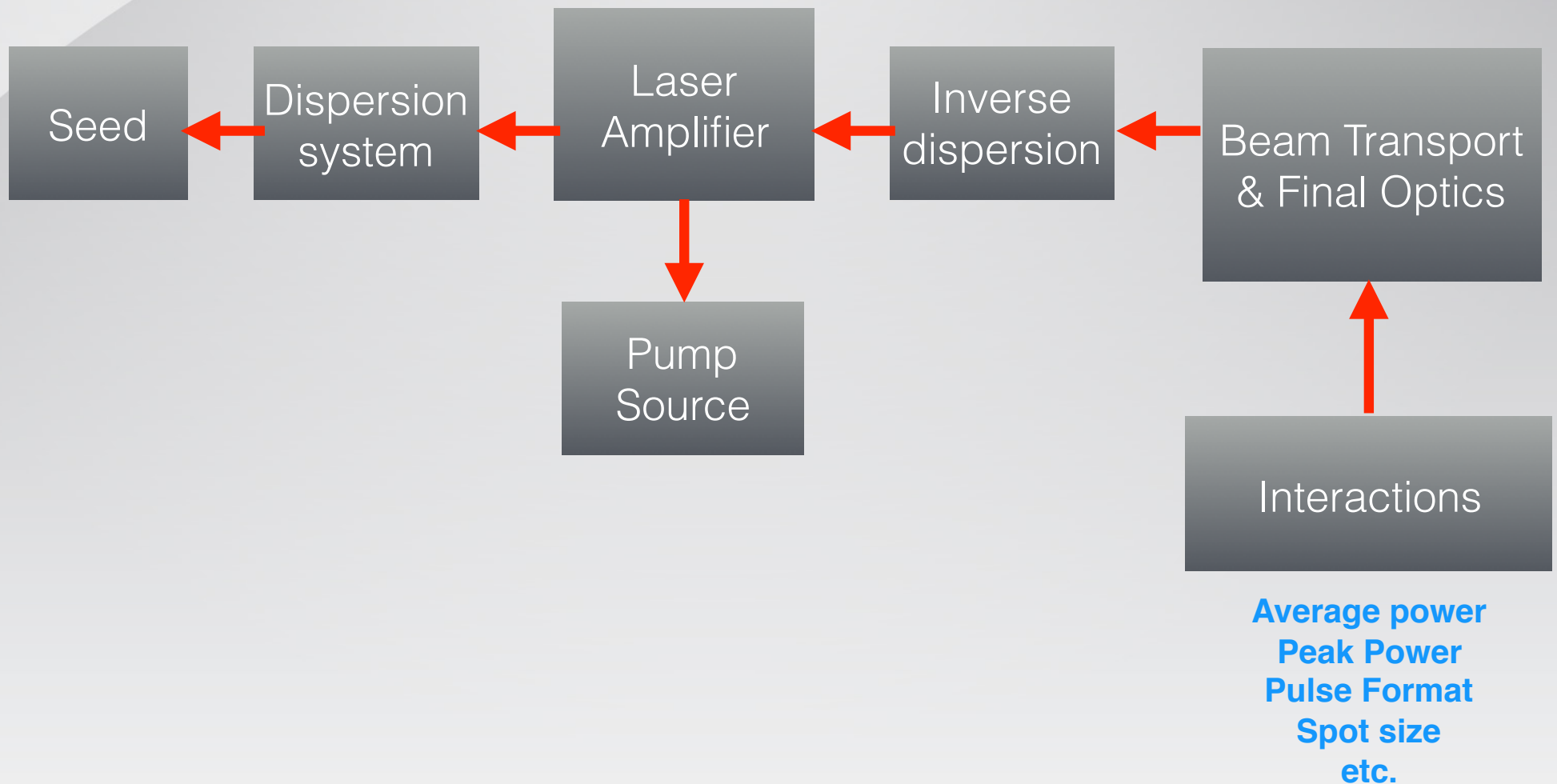
April 24, 2017



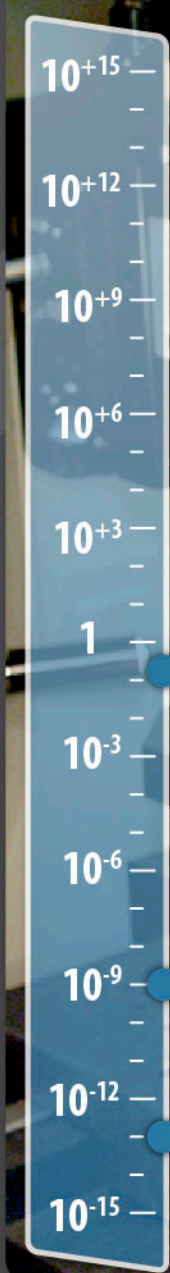
Generic system architecture for gamma-gamma drive laser looks the same for many systems



Design and development of a real system flows from the interaction requirements



Fused silica optics



Surface area
(m²)

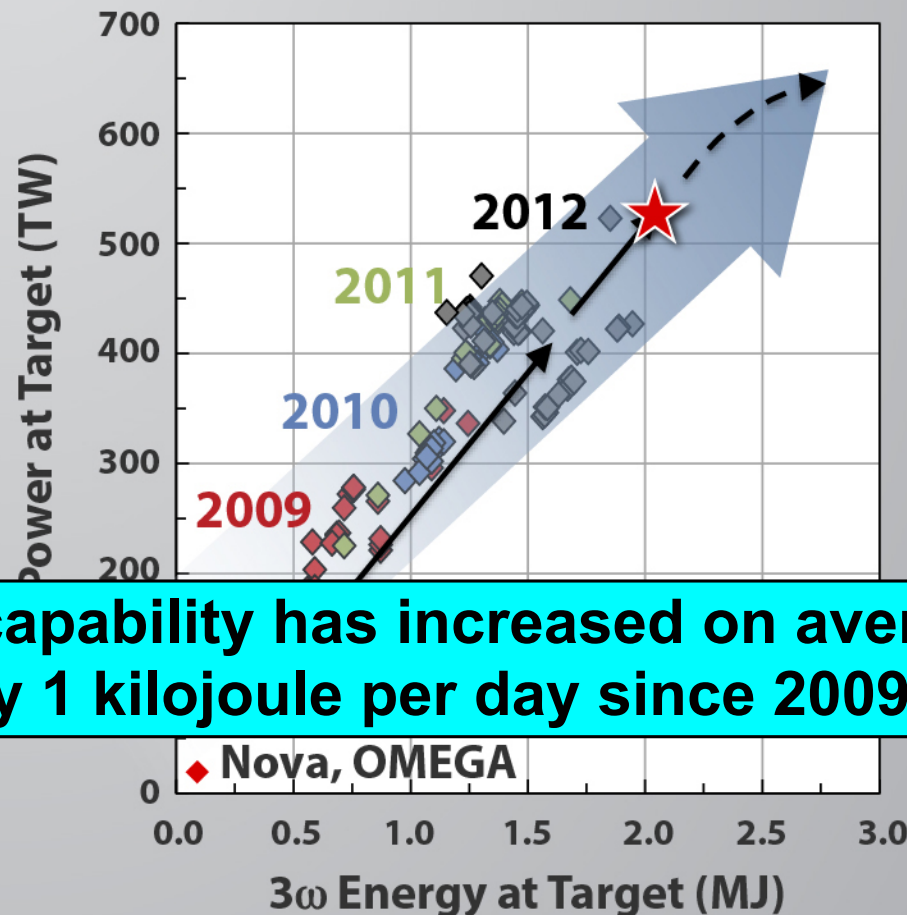
NIF optic

Absorption sites (1997)

Absorption sites (2010)

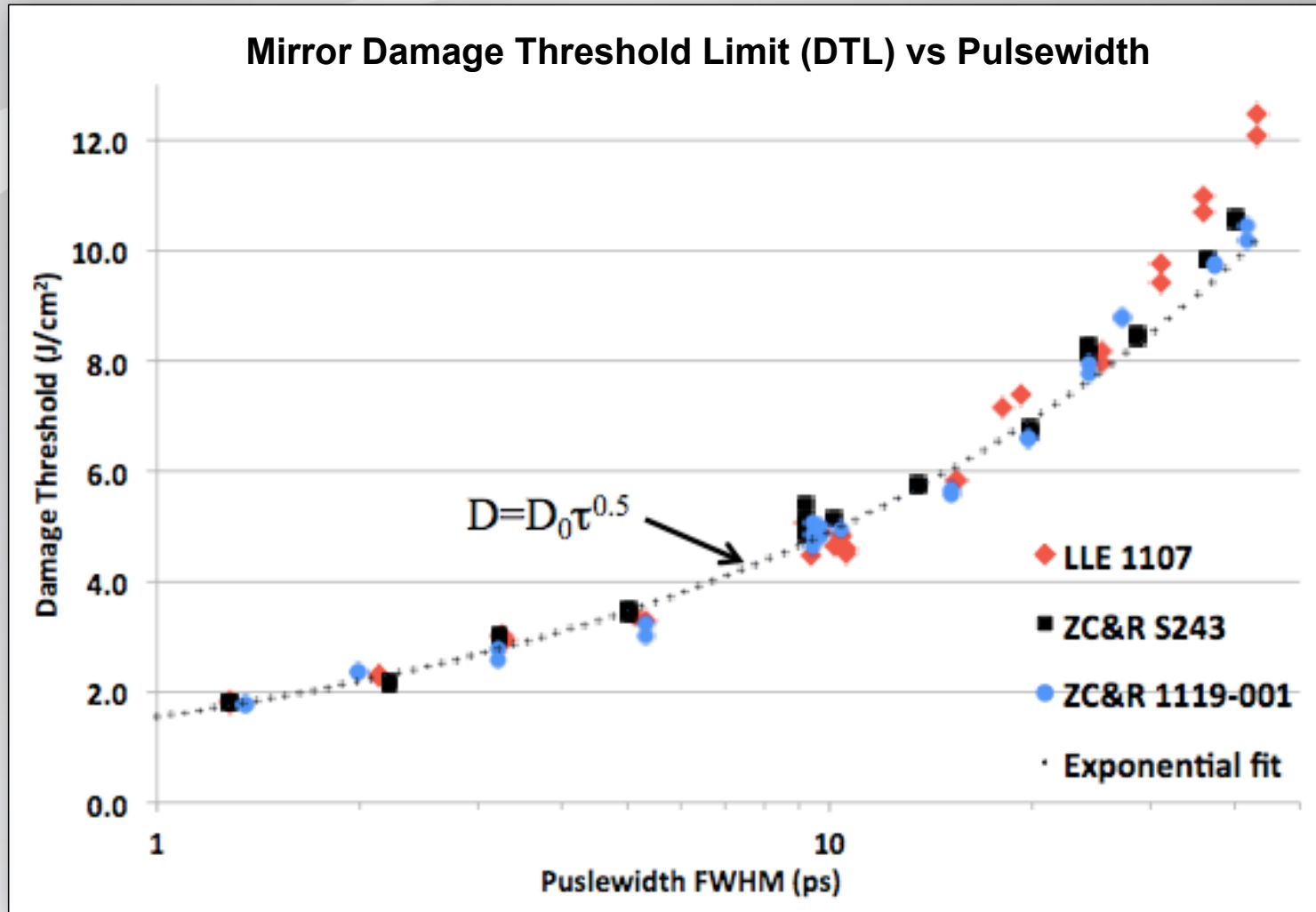
NIF's operational capabilities now exceed its initial design specifications in all parameters

The laser energy and power available for experiments have been steadily increasing



NIF capability has increased on average by 1 kilojoule per day since 2009!

Final optic damage limits performance



DTL is the fluence where probability of damage is UNITY

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