

Direct-Drive Gain Curve Update*

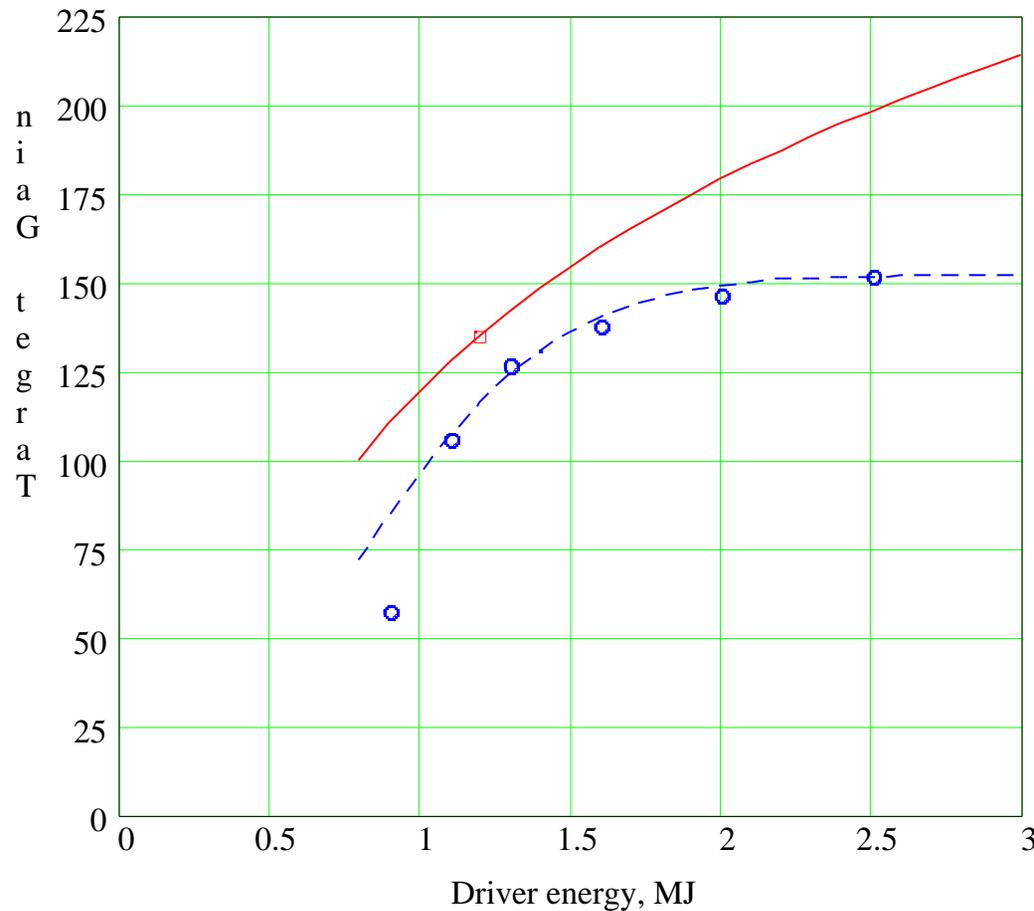
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Laser (1/4 μm), direct-drive gain curve update



Low , zooming

Previous:

$$G = 119 + 86 \cdot \ln(E)$$

New:

$$G = 152 (1 - e^{-E^2})$$

S. E. Bodener, et al., "New High Gain Target Design for a Laser Fusion Power Plant"

Observations



- New curve is very flat beyond 1.5 MJ
- COE will almost certainly optimize at low E, low yield, and high rep-rate (e.g., at $E = 1.5$ MJ, $Y = 204$ MJ, $RR = 13.6$ Hz for 1 GWe)
- Rep-rate constraints will have greater impact on COE