High-Density Plasma Physics Area

We investigate a variety of physical phenomena related to high-density plasmas and relativistic laser–plasma interaction generated by irradiating a high-power laser on target. For this purpose, we develop the high power laser system, target fabrication techniques and plasma diagnostics.

Members

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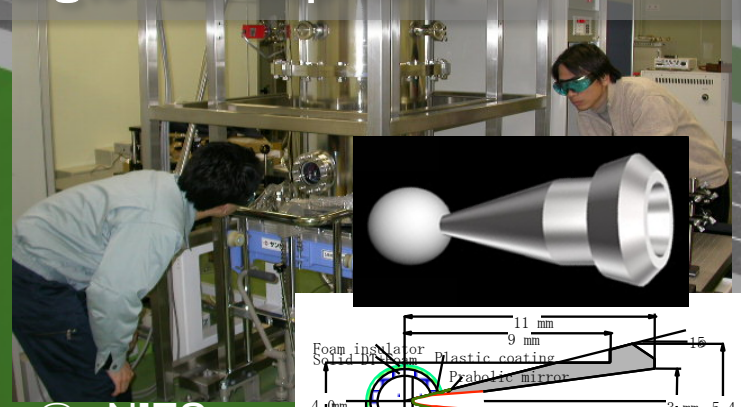
Research topics

1） Research on high-density plasma and relativistic laser-plasma interactions
2） Development of high repetition high power laser
3） Advanced research for the ultra-short pulse, ultra-intense laser
4） Development of advanced target fabrication techniques
5） Development of plasma diagnostics especially for the high energy particles

Power Generator 4 MWe

Reaction
10 M

Cryogenically cooled fusion targts development



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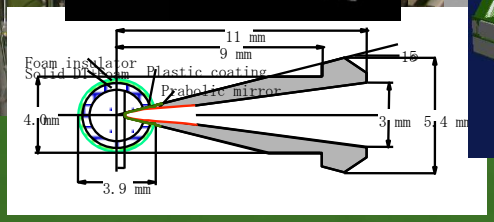
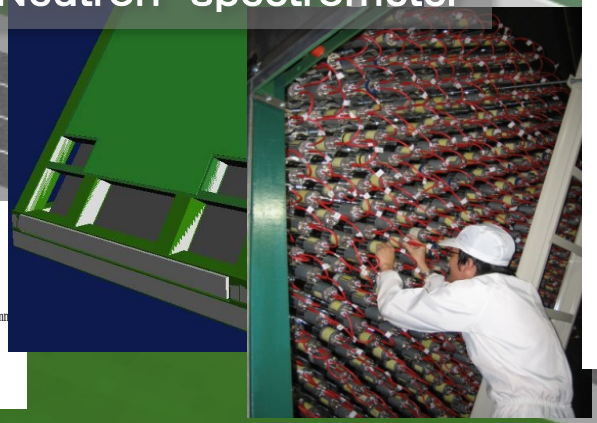
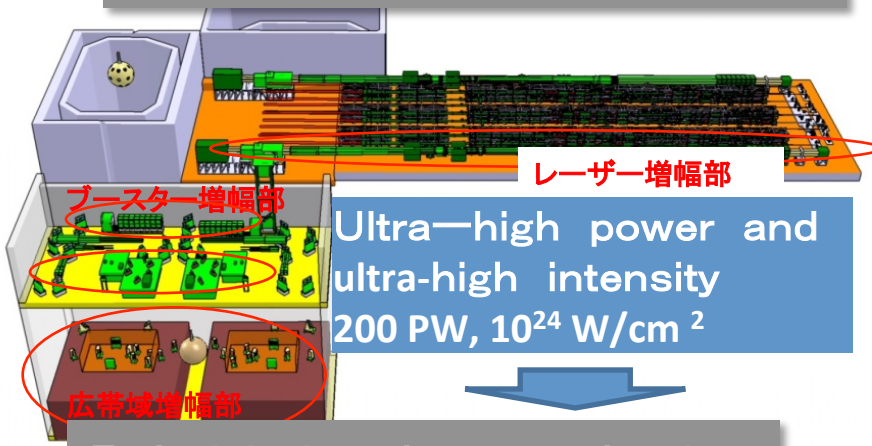


Plasma diagnostics Neutron spectrometer



Uktra-high intensity laser system “Gekko-EXA”



Ultra—high power and ultra-high intensity
200 PW, 10^{24} W/cm ^{2}

Relativistic plasma physics
Nonlinear QED